



AUTHOR: ABROPHY

August 3, 2022 by abrophy

My Weekend of Fun, Pain, and Chess

On Saturday the 30th, a couple of people went to spend the day at Adventure Land (an amusement park). I didn't go though. Instead, Farhan, Meriem, Thomas, Dante, Mattan, Kat, and I went ice skating. I had never been ice skating before, so I was really excited. We ended up skating for 2 hours because that was how long the public skate was open. Anyways, I learned pretty quick. When I first got out on the ice, I used the wall to steady myself and get my bearings, but after that I only occasionally used the wall. My mindset was pretty much just go for it. I had no fear of falling because I really wanted to learn. Because I wasn't afraid to fall, I learned very quickly to the point where before the first hour was over I could do a couple laps around the rink without falling. Unfortunately, I would later regret that lack of fear because I fell hard... A LOT... and my knees greatly suffered the consequences... Despite the pain my knees were in and my bruises I'm currently sporting like battle scars, I had a lot of fun and would definitely love to go ice skating again. I also got pulled into a game of tag with a kid... I didn't even know I was playing, but guess he thought I was a good enough skater to play and keep up with him 😂. Also, thank you Dante for coating me in ice not 10 minutes after I started skating...



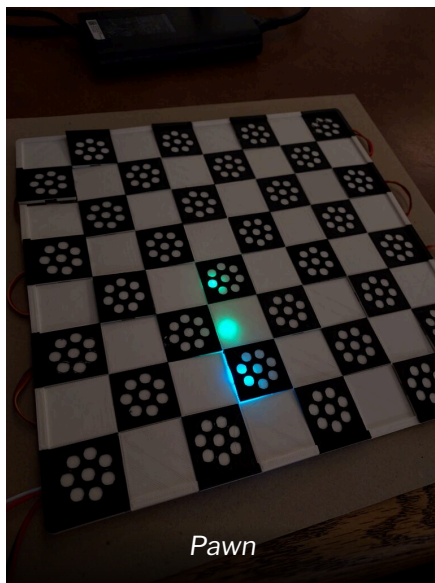
Skates with different laces



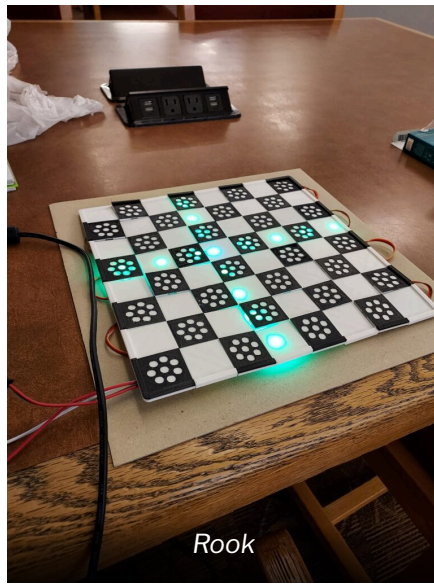
I fell almost immediately after taking this picture

Saturday was also Eli's birthday, so that night when everyone was on their way back from dinner after Adventure Land, we went into the guys apartment, hid, and shouted surprise when Eli, Thomas, and Emma walked in the door. We had some cake and talked for a little bit before I retired for the night because it was a little after 11:00 and I was exhausted since I usually get up around 5 or 6 every morning. We had a good time and I hope Eli had an amazing birthday!

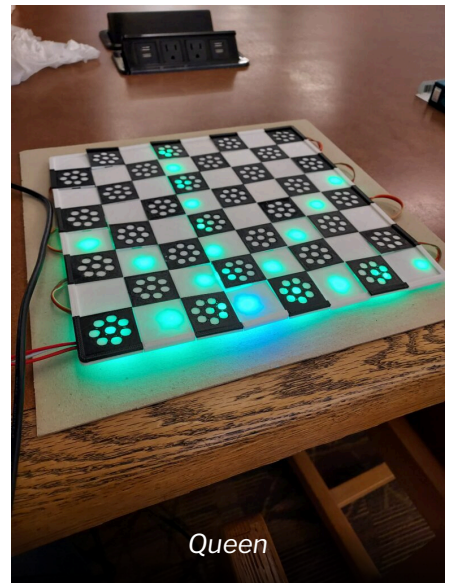
On Sunday, I spent most of the day in the library working on my game of chess since I now have a completed board that works with the LEDs. I was originally working on rewriting the code and simplifying it, but ran into a problem and took a break to just add comments into my code. Below are pictures of me testing the code to make sure the correct tiles on the board are light up by the LEDs.



Pawn



Rook



Queen

Not much happened on Monday besides us finishing our poster for the symposium on Thursday, but last night a couple of us watched *Spirited Away*. It was an interesting movie and was not what I expected at all, but it was still good. Anyways, now it is basically just wrapping up some loose ends and preparing for the symposium tomorrow. I'll probably write one more blog post after this to talk about the symposium and say goodbye. It's hard to believe my time here in Iowa is almost over.

July 29, 2022 by abrophy

Wrapping up the Project and Celebrating Shea's Birthday

A lot of the work on our project has been getting wrapped up this week. As of right now, Charles has done as much as he can with the prediction trajectories in the virtual environment, so the three of us has been working on designing our poster for the symposium next Thursday... I hate designing posters... Some people can design amazing posters, but there is a reason I'm a math and comp sci major and not an art major. I suck at designing things and making them look good. Luckily, the combined effort and ideas of the three of us have led to a pretty good looking prototype. No spoilers as to what it looks like will be given in this post, so you'll just have to wait until the symposium to see the final poster.

Yesterday was Shae's birthday! To celebrate, we all went to a nearby park, called Inis Grove Park, and played some games. Apparently it was also a little kid's birthday because there

were a lot of little kids there for a birthday party. We played monkey in the middle with a soccer ball for a little bit and eventually went over to the large playground once the kids had left due to it becoming late in the evening. Unlocking our inner child spirits, we explored the playground and started playing freeze tag with a kid who was still at the playground. It was a pretty fun evening.



Fun at the park



July 25, 2022 by abrophy

Des Moines, Meriem's Birthday, and Research Progress

On Saturday the 16th, 8/9 of us and Lale all went to spend the day in Des Moines. The first thing we did was go to the Des Moines farmer's market which was so much bigger than the one in Ames. There were a lot of cute dogs there. Anyways, we weren't able to spend very long at the market because we had also planned to go do an escape room around noon.

Once we were at the escape room, we split into two groups for two different rooms because all nine of us couldn't do the same room. My group, consisting of Lale, Meriem, Farhan, and I, did an escape room called Do Not Disturb. The premise of the room was that the four of us had tracked a killer to this run down motel, but he knew we were coming and locked us in this motel room. Our goal was to escape within an hour in order to stop the killer and save his next victim. The escape room was pretty fun and we all had a good time even though we didn't escape in time. We asked the escape room employee how tough our room was in comparison to the different room that the other group did and she told us that ours was the second hardest while others did a room they would typically recommend for beginners. They also had one more person than us, so we were able to taunt them a little bit since they gave us a hard time about being able to escape while we didn't.



After the escape room, we all went to the Des Moines mall and walked around for a little bit. Then, on our way back to Ames, we stopped to eat at Olive Garden. I had some delicious chicken and dumpling soup, pasta, and breadsticks. The breadsticks were so good that I shoved 6 of them in my to go box with the other half of my pasta and ate the breadsticks with my dinners throughout the week.



Dinner at Olive Garden

The rest of the weekend was pretty normal and relaxing. Not much happened during the week either. Wednesday was Meriem's 21st birthday, so to celebrate we went out to dinner at El Azteca with two other students from a different REU, and 3 of the undergrad and grad students who work in VRAC with us. It was pretty fun and the food was good too. I'm happy Meriem had a good birthday. Wednesday was also the first time we got generative SCAN to start training on data successfully, so it was a good day for Meriem and I. I'm glad she had a good birthday.

Last week, Meriem and I made a bunch of progress getting SCAN to work and train on the datasets, but training SCAN on each data set took FOREVER! So after spending a while troubleshooting error messages and zooming with the lady who wrote the code (she is one of our professor's old students), we were able to get it working. The downside to that was the fact that it literally took about 10 hours for each dataset to train even when we switched from training it on the cpu to the gpu... We were told that training it on the gpu would make it run a lot faster so it would no longer take 10 hours to train. This was so not true though. After getting Jack's help on Friday fixing the code to get it to run on the gpu

instead, it still took 10 hours to train... We also had to train it on 5 datasets, so last Wednesday, Thursday, and Friday were pretty much spent by us starting to train a dataset when we got into the lab in the morning and letting it finish training over night. Anyways, we have it working now which is awesome!

I didn't really do much this past weekend either. I spent a lot of time walking around campus and just being outside in general which was very relaxing. (Hi Paul C, I know you are reading this). Meriem and I also trained SCAN on more of the datasets this weekend. Also, on Sunday, I was sitting outside in the courtyard on the second floor of the Innovation Center. Meriem texted me asking if I was still at VRAC and I told her no, but I was across the street in the Innovation Center. A little while later, I heard knocking on a window near me and looked up to see Meriem, Thomas, and Shae had stopped by to visit me on their way to the gym which was so nice of them. We talked for a little bit then went over to VRAC so Meriem and I could check on SCAN and see the training progress.



Second floor courtyard in the Innovation Center

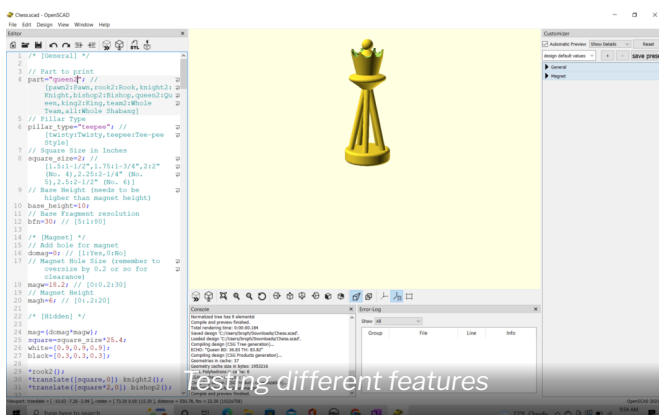
Overall, the weekend was pretty relaxing, but we definitely have a busy week ahead of us with only 2 weeks left here in Iowa. We also need to start making our poster for the research symposium since it is due in about a week. Wish us luck finishing everything in time!

July 19, 2022 by abrophy

Building a Game of Chess

This blog post is going to be all about my MCA (even though our MCA presentations were about a week ago... it's just taken me a while to finalize this post). For my MCA, I 3D printed a game of chess. The idea was under the printed chess board, I was going to add LED strips, controlled by an Arduino Uno, to light up the squares on the board when a chess piece was selected in order to show the possible moves the piece could make. This would help beginners learn how to play chess.

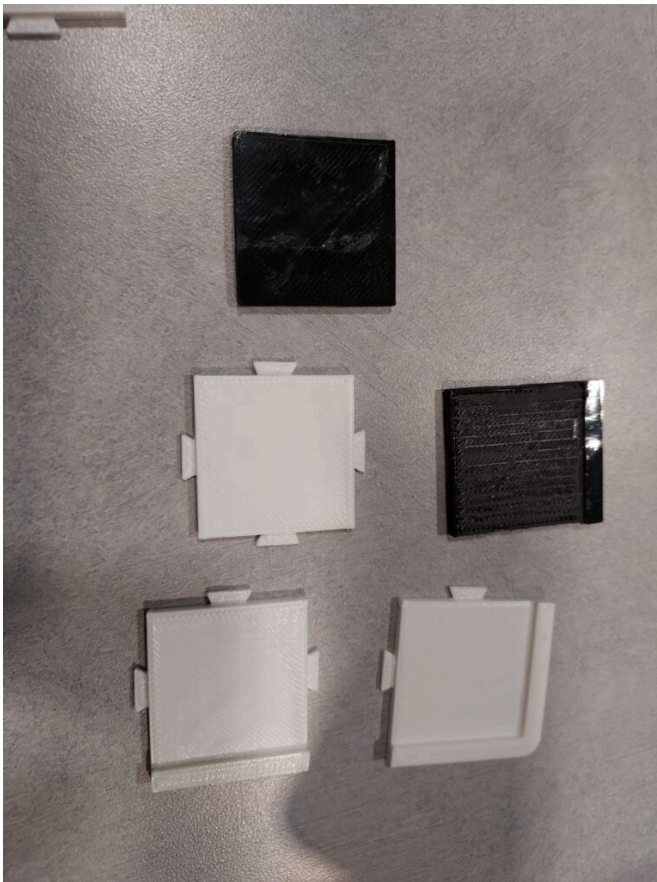
To begin, I found some open scad files for the chess pieces and board on Thingiverse that I liked and edited them until I was happy with the results. The main changes I made were reducing the size of the sphere on the top of the pawn and slightly thickening the tile pieces for the board. The funny thing is that some of the other interns were convinced that I made these models from scratch... That would be pretty impressive, but unfortunately I am not that skilled and did not have the time to do so.



Anyways, once I was happy with the models, the printing began... and there was most certainly a lot of it... 32 chess pieces were printed along with an absolute boat load of tiles for the board because we had several issues later on in the printing process (which I'll explain later). It was also interesting to see that the black knights printed without any

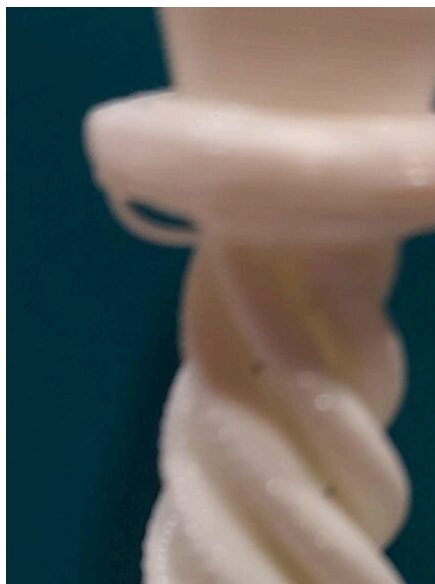
supports in the center of the piece, but all the other pieces printed with a support in the middle of the spiral.

Additionally, when you are 3D printing, even if you print the same model on the same machine with the same settings, filament, temperature, etc., there are so many factors that can affect how the part turns out so that no two parts will ever be completely identical. As a result, it's pretty impressive that the chess board pieces actually fit together since they use such small connectors. Although the pieces do fit together, the chess board does not lay flat due to the way the board pieces have warped and cooled.

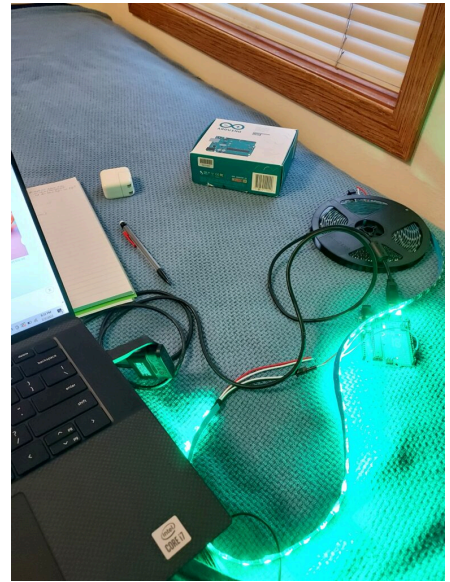
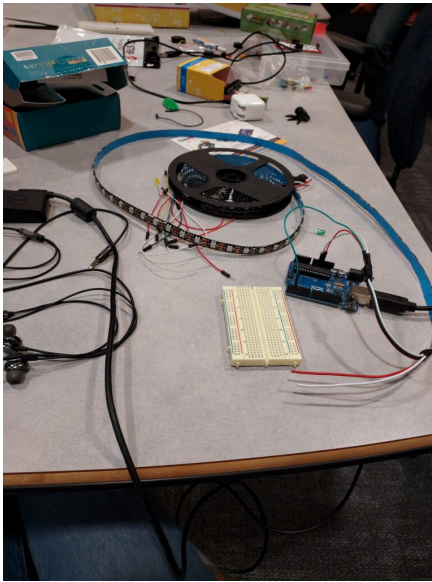




Looking at the defects in the parts to see the differences in printing is also pretty cool.



After enough pieces had been printed, I began working with the Arduino Uno and LEDs to light up the board.



Also, huge shout out and thank you to Mattan for teaching me how to solder the LED strips together that Friday! I actually enjoyed soldering and thought it was kind of fun, which is probably why I spent 3 hours straight soldering those strips together. You can even ask Alex about that if you don't believe me.



Thanks Mattan!

After spending the afternoon soldering, I went back to working on programming the LEDs. I spent the entire weekend writing code to run the LEDs from the Arduino. The pieces I

have working properly are the pawn, rook, and bishop. The queen should work, but I haven't tested it to make sure. Additionally, the knight works when it is in the center of the board, but has some bugs I need to fix when it is on the edge of the board. I also have not programmed the king yet because I ran into an issue over the weekend. My issue was that the Arduino was running out of memory to run the code. I was able to run the rook and the pawn at the same time, but if I tried to add in the bishop, everything would go haywire, the incorrect squares would light up, and not all text would be displayed on the screen to prompt the user as to what they should do next. As a result, in order to run the bishop I had to comment out the code for the pawn and rook. Because of this, I didn't bother testing the queen or fixing the knight because I was also running out of time before the presentation Monday afternoon. I do want to finish writing all the code even if I can't run it all at once, but I also want to rewrite the code I have so far in a more efficient and concise manner. I realized while I was writing the code that there was a better way to structure everything, but I had already written too much code to rewrite and finish everything before Monday.

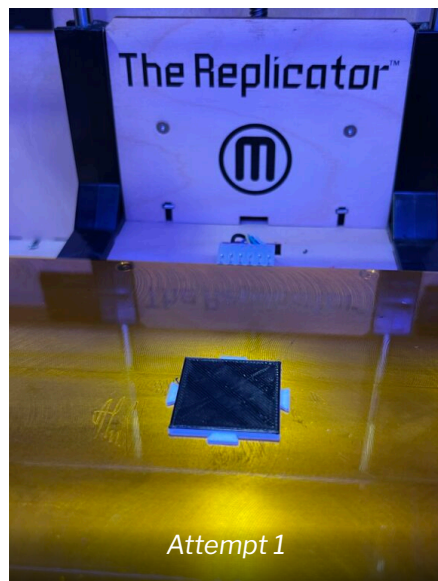


```
chess_version_3$  
void rook(){  
    String square;  
    String new_square;  
    num_pieces = 2;  
    Serial.println("Which square is the rook on that you would like to move?");  
    for (int i = 0; i < num_pieces; i++){  
        Serial.println(rookBoardPositions[i]);  
        strip.setPixelColor(ledNumForEachSquare[rookNumberPositions[i]], strip.Color(255,0,0));  
        strip.show();  
    }  
    while(Serial.available()==0){  
    }  
    square = Serial.readStringUntil('\n');  
    for (int i = 0; i < num_pieces; i++){  
        if (rookBoardPositions[i] == square){  
            stop();  
            strip.setPixelColor(ledNumForEachSquare[rookNumberPositions[i]], strip.Color(0,255,255));  
            strip.show();  
            newRookPosition(square, num_pieces);  
        }  
    }  
}  
  
void newRookPosition(String square, int num_rooks){  
    String new_position;  
    String letter = square.substring(0,1);  
    String number = square.substring(1,2);  
    num_possible_moves = 14;  
    String newLights[num_possible_moves];  
  
    int j = 0;  
    for (int i = 0; i < 8; i++){  
        String letters[8] = {"a","b","c","d","e","f","g","h"};  
        String letter2 = letters[i];  
        if (square != (letter2 + number)){  
            newLights[j] = letter2 + number;  
            j++;  
        }  
    }  
}
```

This is part of the code for the rook and will probably be rewritten soon.

I'd also like to give a huge thank you to Alex for helping me solve my issue of light not shining through the black tiles. Monday morning, we still had not solved that issue. We had tried to print a white tile with a black layer on top to see if that allowed the LED light to shine through, but unfortunately the black was too opaque. We also tried to leave a white circle in the center of the tile for light to shine through, but not all of the LEDs were centered in the tiles, so that did not work if the LEDs were off centered. Anyways, to finally resolve the issue, Alex created a tile design with 4 small circles in it that would allow the light to be visible. Luckily we were able to print a couple of those before the MCA presentation. There were a few issues though. One issue we had in regards to the pieces

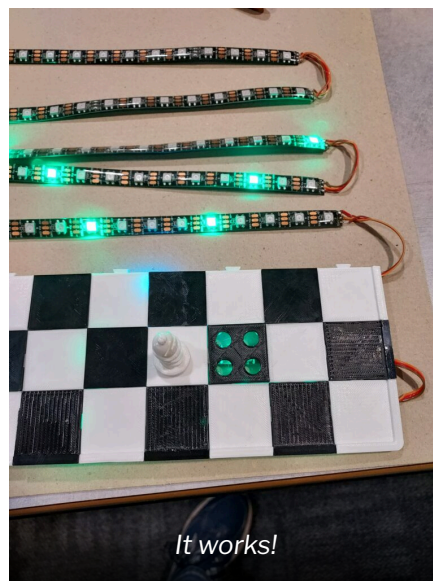
fitting together was that we were printing the tiles on a different machine in PLA instead of ABS, which caused issues where the tiles were fitting together very loosely and therefore weren't staying together. Additionally, the final black tiles didn't fit correctly with the tile pieces I already had because the size of the connectors had gotten messed up. As a result, I just had to lay them in the empty spaces on the board.



Attempt 1

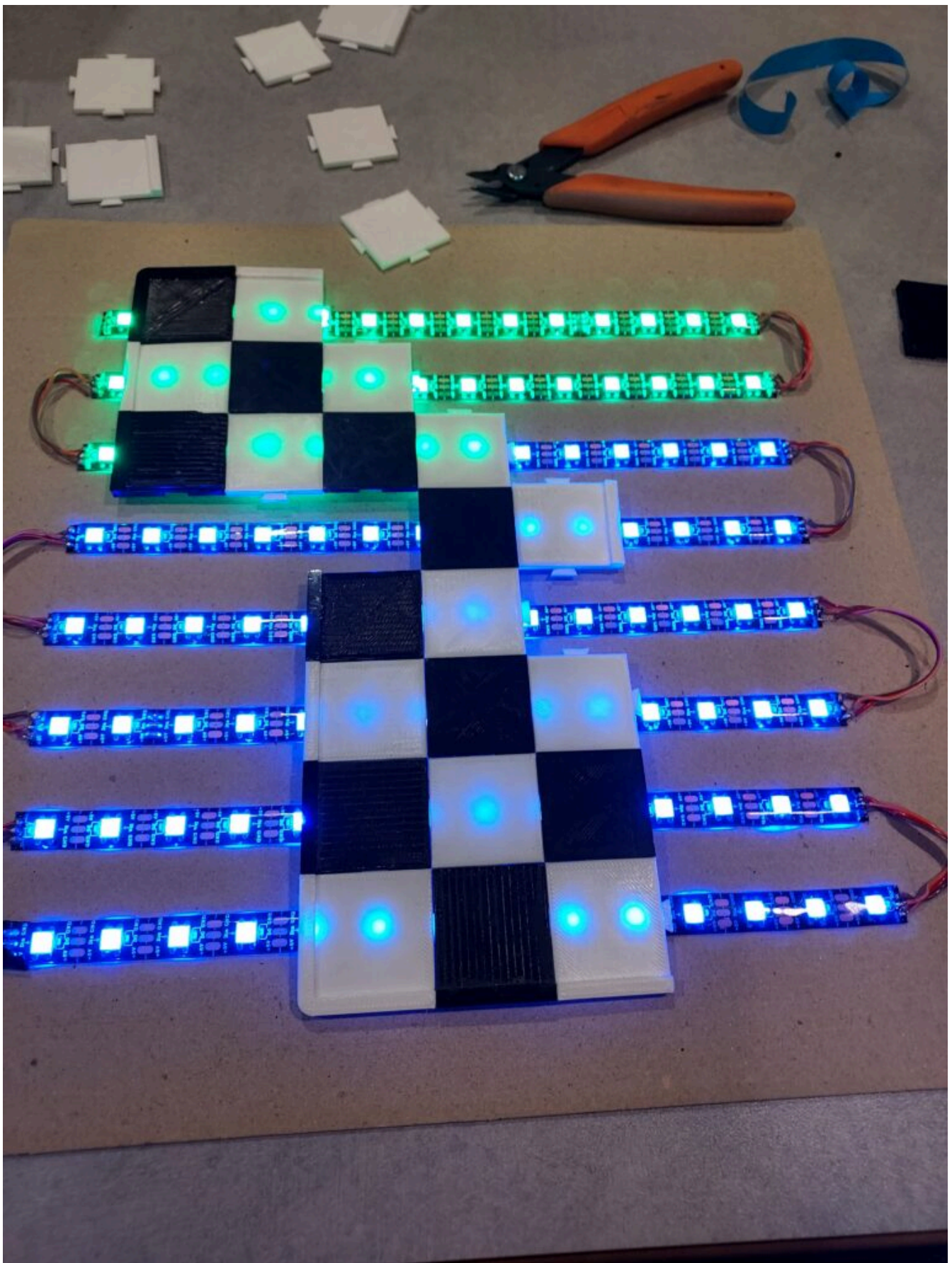


Attempt 2



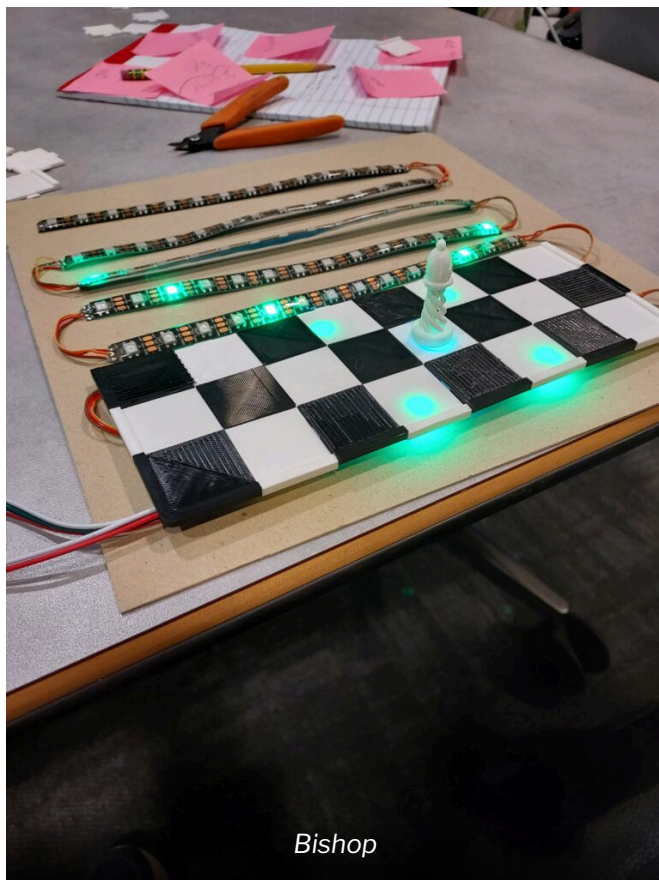
It works!

With the final problem resolved, it was time to attach the LED strips to the cardboard for a solid base to set the board on. By far, the most stressful part of the MCA was attaching the LED strips down to the cardboard and spacing them out equally so they were centered in each row. This was mainly stressful because I had about 30 minutes to do it and did not have a full chess board to use to make sure the LED strips were straight and centered in each row. Therefore, to do this I used a pencil and ruler to make marks and lines on the board to help line up the LEDs, and also used a makeshift board to help make sure each LED strip was centered in the tiles. I finished this about 10 minutes before the presentations started.

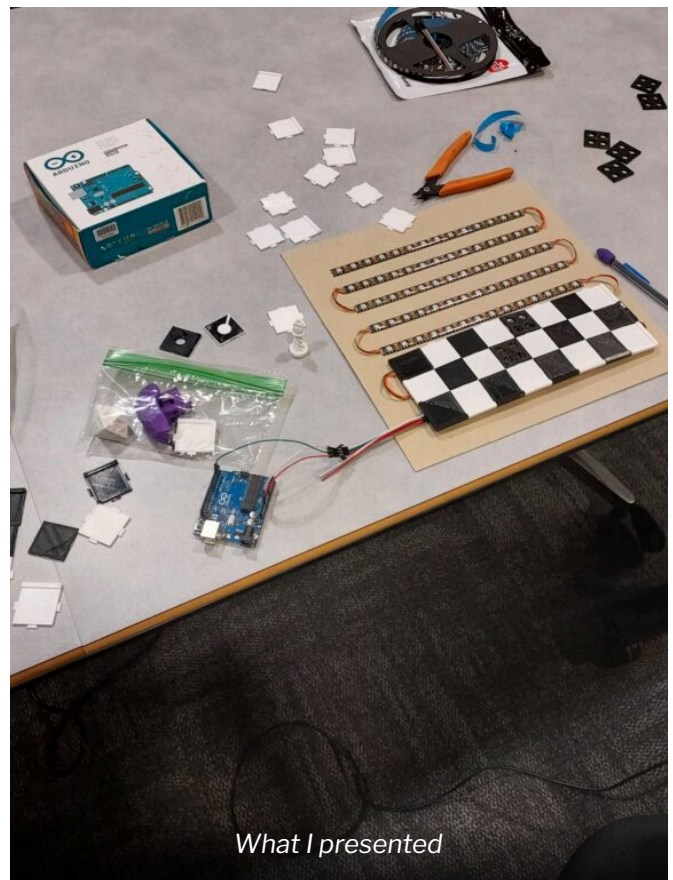


Because I finished so close to the start of the presentations, I didn't have a chance to rehearse or look over my slides since I had made them that morning. Since I hadn't looked

over my slides, I also basically forgot what I had put in my slides 😅. I vividly remember standing in front of everyone presenting and getting to the end of my second slide (out of nine) and thinking to myself “hmm... I don’t remember what my next slide is... or the slides after that... so I guess we’ll find out together.” I was basically winging my entire presentation (which I absolutely hate doing. I like practicing at least a few times, but I guess my theatre experience comes in handy when I need to wing presentations). Anyways, a lot of people said I did really well. I also got so many questions at the end about what my chess set could do, what I was planning to do with it, how I programmed the bishop (which I did not adequately answer at all). I also only showed my bishop in the demo on purpose because the pawn, rook, knight, and queen were all commented out at the moment and I would have had to go comment the bishop out and uncomment the pawn and rook to show them working.



Bishop



What I presented

Overall I’m really happy with how my MCA turned out. I also have a completed chess board now! For those wondering why the black pieces don’t have holes in them, it’s because I fully intend to use this board as a portable chess set and didn’t want the holes if I wasn’t using the LEDs.

I'm also definitely going to invest in my own 3d printer in the future because I have really enjoyed learning all the fine details about 3D printing and about what it can do. Thank you Alex for such an interesting deeper dive!



July 15, 2022 by abrophy

Research Updates

I'm still working on finishing my MCA blog post, so that will probably be up later this weekend or early next week. Anyways, the rest of the week has been good. We made a lot of progress on our research project this week. We finished our abstract for the poster presentation and submitted our application for the symposium at the end of the summer. Additionally, we made slides yesterday for our practice oral presentations this morning, so it was a pretty productive day yesterday.

Overall, the presentation went well this morning. It was a decent presentation so we know what we need to improve on and fix for later presentations. The other groups also had pretty good presentations. It was interesting to finally see the full picture of the stuff they are working on after hearing bits and pieces about it all summer. Charles, Meriem, and I also went out with Cody for lunch after the presentation which was nice. We went to a Thai food place, which was a first for me. I had never had Thai food before, but I really liked the chicken pad thai with level 2 spice that I got. I'm definitely going to have to try more Thai food in the future.

Overall, it has been a pretty fun week despite being so busy the last couple of days. I'm ready for the weekend though. Right now we are planning to spend tomorrow in Des Moines and do a bunch of stuff like go to the farmer's market, mall, escape room, and get dinner. We have a lot of plans for tomorrow, so I'll update the blog again soon with what we do.

July 12, 2022 by abrophy

Cupcakes, T-Shirts, and a Festival

The last week has been pretty busy, so a lot has happened that I can write about... especially since I got behind on blogging last week due to the chaos of finishing my MCA for our presentation yesterday. I'll save talking about my MCA for a separate blog post though. Anyways, last week started off pretty normal and peaceful. On Wednesday, Charles, Thomas, Farhan, Shae, and I went to Friley Windows (the dining hall) for lunch. Everything was fine until I decided to eat a cupcake... As soon as I started eating it, Shae, Thomas, and Farhan started

to judge and question me relentlessly. For clarification, I have a specific way I eat cupcakes. Since I am not a snake and can therefore not unhinge my jaw to take a bite and also don't want to end up with a nose covered in frosting, I separate the cupcake into a top half (with icing on it) and a bottom half (with no icing on it). I then proceed to eat the bottom half first, followed by the top half with the icing on it. Apparently for Shae, Farhan, and Thomas, this was an unfathomable way to eat a cupcake because I was placed under intense scrutiny about why I eat cupcakes that way. It also didn't help that Thomas used to work at a bakery making cupcakes. So, to anyone else who is upset by how I eat cupcakes, I apologize for not being able to unhinge my jaw to fit a cupcake in my mouth.

Wednesday evening went from being a pretty normal day to being an extremely stressful one in a matter of minutes. At 4:30, we went into the conference room to discuss t-shirt designs for the REU. Apparently we were supposed to have been told to start thinking about t-shirt designs the week before, but no one ever told us so this was the first time we had heard about it. The meeting started out with us being told we needed to have a t-shirt design done on Friday. In other words, we thought we had 48 hours to design a t-shirt... oh how wrong we were... We were quickly told that although the final t-shirt design needed to be done by Friday morning, we needed to have 3 possible designs done to submit for feedback by the next morning. In other words, we had about 12 hours to design 3 t-shirts... It was very stressful to say the least. We basically came up with a design that everyone liked and perfected that design, then threw together two crappy designs to submit to satisfy the 3 design requirement. Our first design got approved, so we'll see how the shirts turn out.

Then, over the weekend, I primarily spent my time programming an arduino for my MCA, but I'll save the talk about my MCA for a separate blog post. Anyways, Sunday evening we went to Ankeny Summer Fest which is a festival that was taking place in Ankeny (in case you couldn't tell by the name). I'm not sure what I was expecting, but I most certainly was not expecting it to be like a mini state fair with like 15 rides, music, and a bunch of food trucks. I bought enough tickets for 2 of the rides which were pretty fun. It was also pretty cool to see Eli's parent's food truck there that they run as a side business. Overall, I had a good

time. Towards the end, Thomas, Meriem, and I were all just sitting in the grass talking and looking at the night sky. This is when I learned about something very interesting from Meriem. She told me about this exoplanet called WASP-76b she learned about that doesn't rotate. Because it doesn't rotate half of the planet gets very hot (like 2,000 degrees Celsius) while the other half of the planet is about a thousand degrees cooler. There is also speculation that the temperature difference also allows for the vaporization of iron on the hot side and condensation of iron on the cool side leading to iron rain, but I don't think this has been confirmed.

Anyways, we've also been making some progress setting up Trajectron++ to continue on with our group's research on intent prediction. It's been a little rocky today, but hopefully I'll have this error resolved soon. Meriem and I have also been struggling with getting TrajNet++ set up on her computer, so that's a whole other problem we need to tackle. Huge thank you to Jack for helping us with TrajNet++ this afternoon. I'm sure we'll get everything sorted out soon and have our project done in time for the research poster symposium on August 4th.

MCA post coming soon...

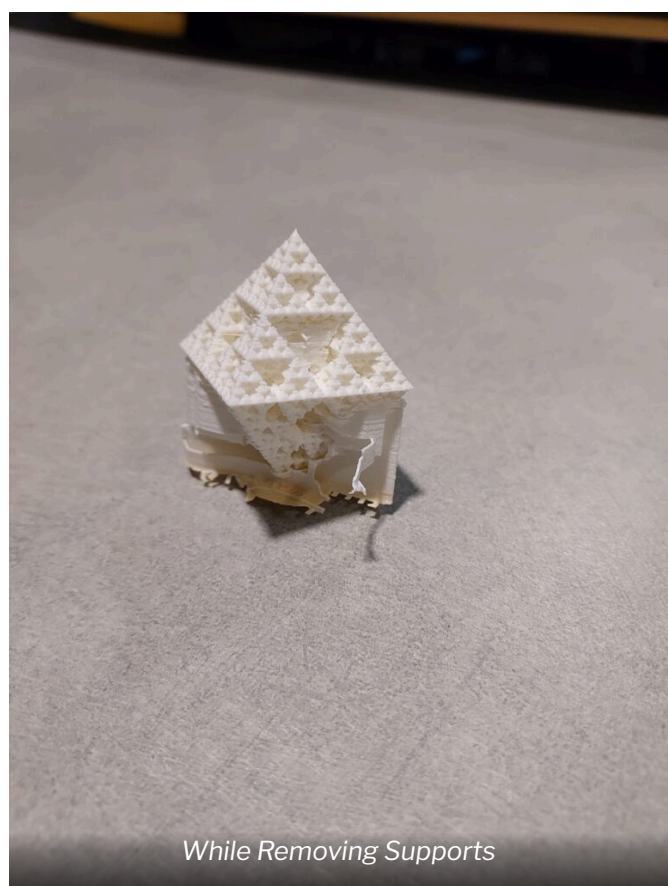
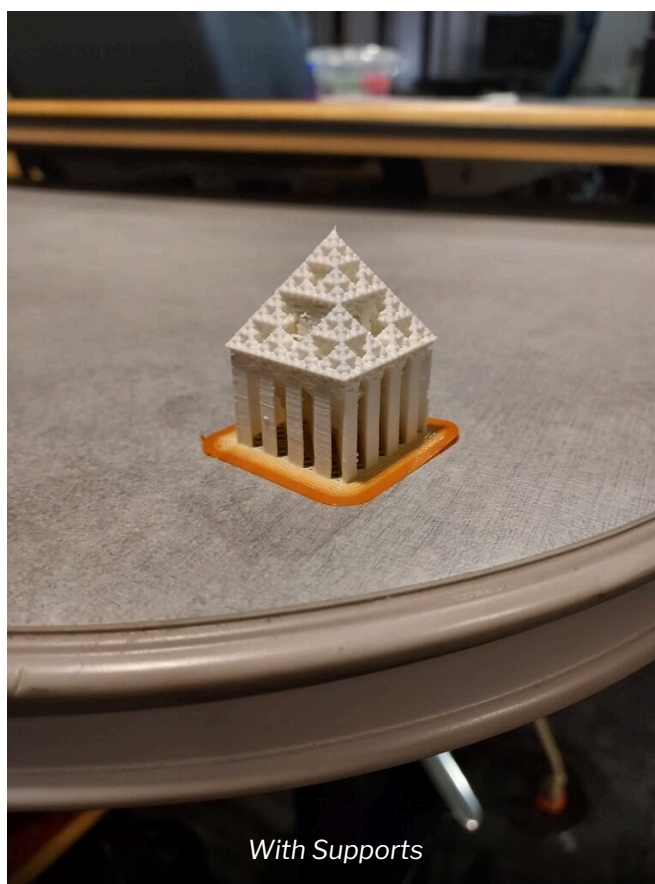
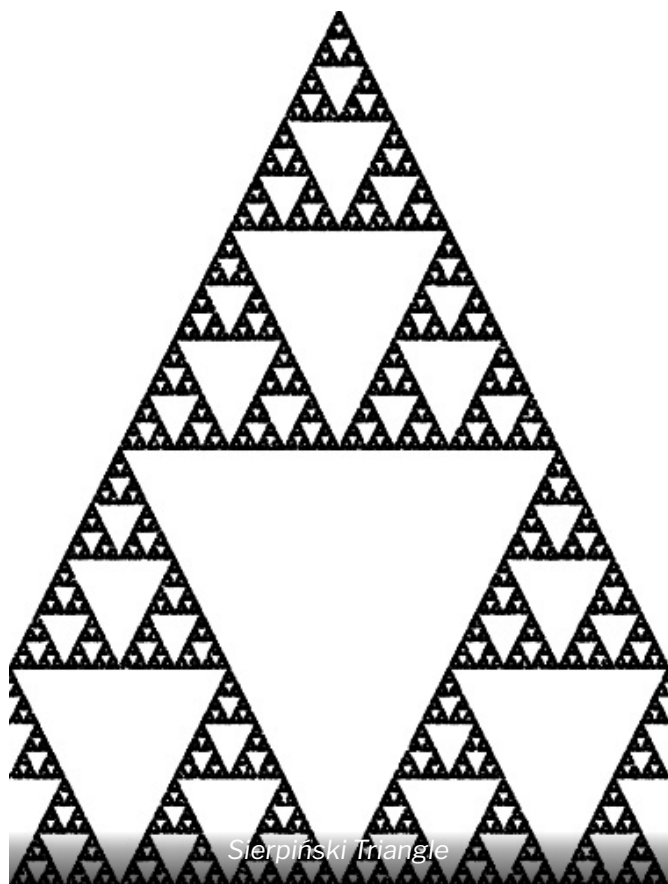
– Alli Brophy

July 5, 2022 by abrophy

A Busy July 3rd

Overall, the rest of last week and this weekend were pretty busy and fun (minus the fire alarm in VRAC of course). As part of the 3D printing deeper dive, I printed a fractal, more specifically an octahedron made of Sierpiński triangles which are equilateral triangles divided into smaller and smaller equilateral triangles. It was a pain to remove all of the

supports from the part after it was printed, but it was worth it because the part turned out pretty good considering how many small details there are on it.

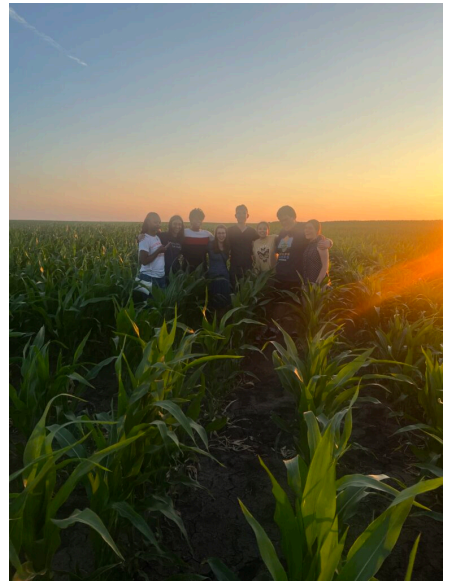
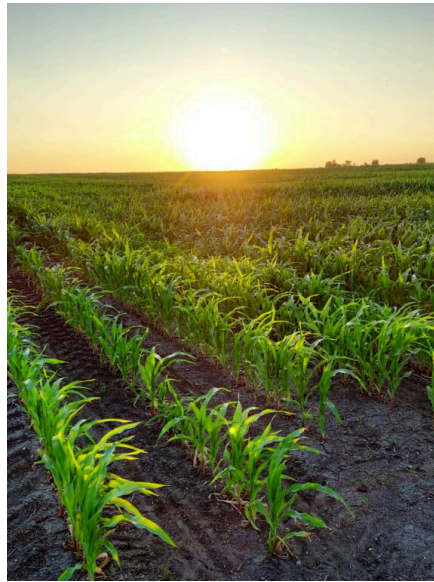
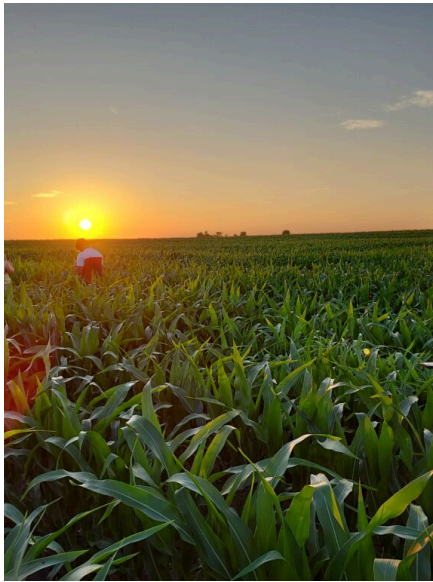




Sneak Peek at my MCA

On Thursday evening, Lale invited us over to her apartment to hang out. She made two different pesto pizzas and some rice, which was all delicious! Thank you so much Lale! After eating, we played a few rounds of Uno. I think it's safe to say all 10 of us had a great time. I also thought it was pretty funny that out of the 9 of us interns, 4-5 of the others were practically falling asleep sitting there while I was one of the most awake ones, yet I had been up since literally 4:45am with no coffee or naps.

The weekend was pretty relaxing. Not much happened Saturday, but on Sunday the 3rd, Eli's parents invited us all out to their house for a cookout. The food tasted great! Huge thanks to Eli's parents to inviting us! Before leaving Eli's house to go back to Frederickson, we had to stop and take some pictures in a cornfield where "the corn is knee high by the 4th of July." I'm not going to lie, walking through the cornfield was actually kind of fun. Anyways, after we got back to the dorm, Imtiazul and Eli drove us to the Ames fireworks show where we all sat in the back of Eli's truck to watch the fireworks. Emma had made banana bread and brought it to the show, so we ate it while watching the fireworks. Overall, we had a good time watching the fireworks and hanging out.



June 30, 2022 by abrophy

The Jolly Benchy

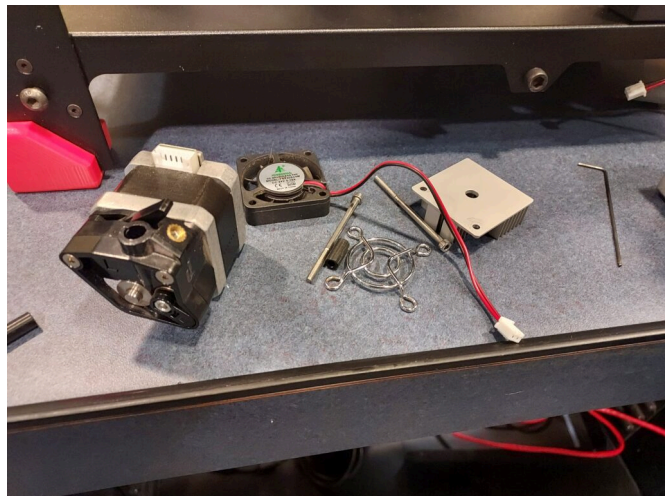
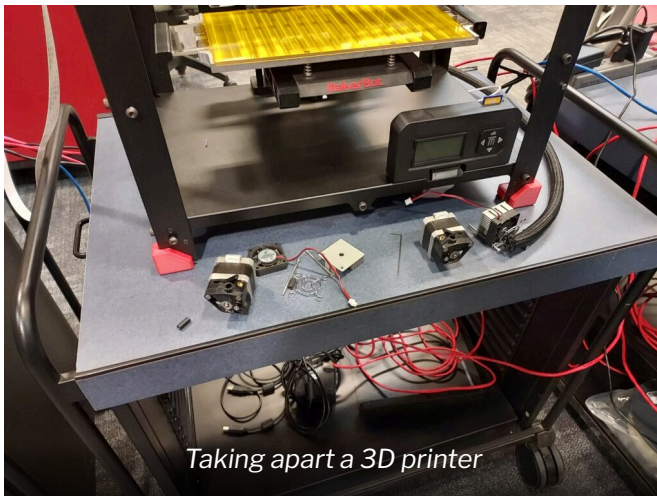
The past few days have been pretty fun despite having to leave the lab on Tuesday due to awful fumes caused by someone sealing concrete in a lab in the basement of Howe. Because of this, we all went outside and Eliot took us to get bubble tea which was really nice of him. I just got an oreo smoothie this time with no boba in it. Overall, it was alright. Nothing special. Anyways, after we got our drinks, we left with Eliot and some of the other grad students to go sit somewhere outside on campus and talk. Grace, Eli, and I sat and talked with Eliot, which was very helpful and informative because we were able to ask him questions about grad school and other things we were curious. The conversation really helped me figure out the career path I think I want to head down. Prior to coming to Iowa, I had a feeling that I was going to love doing research and so far I was right. I've really enjoyed it so far and can't wait to see our final product at the end of the summer. As a result of my experiences so far, I think I definitely want to end up in a career doing research in computer science. The conversation we had with Eliot definitely helped me

clarify some things and definitely gave me more to consider and think about moving forwards.

I've especially enjoyed learning more about 3D printing over the past couple of days. Yesterday we got a safety crash course for operating the 3D printer and learned how to load the filament into the printer, level the print bed, and learned about things to look for while the part is printing. It was also interesting to see the small differences between the boats even though they were printed from the same model (called Benchy). We also tested the Benchies to see if they would float in water.... They float... they just also capsize.... In other words, it's not a boat you really want to be on.

I'm also really excited to start working on my MCA. All I'll say about it is it has to do with a 3D printed chess set and it's going to be pretty cool. Other than that, you'll just have to wait and see the final product.

Lynn and Sarah also got us donuts yesterday morning, which was so nice of them! We all really appreciated it!



June 27, 2022 by abrophy

3D Printing and Cy Statues

On Friday, we started our deeper dives. The deeper dive I'm in is on 3D printing which I've been excited to learn more about. During the lessons on Friday, we covered a lot of information about the history and development of 3D printing and rapid prototyping. That afternoon we got a lot more hands on and actually got to touch one of the 3D printers to get a better understanding of how the parts move which was very interesting. This morning we also learned about things to consider if you are buying your own 3D printer and how to use Ultimaker Cura to print a tiny mug. The first attempt at printing the mug did not work out well. When the printer started, it didn't extrude any of the material for the first couple of layers. Eventually the printer started extruding PLA, but we were left with a bottomless mug.

I also tried boba tea for the first time on Friday... I had a mango smoothie with mango jelly boba... I was not a fan... it was way too sweet and I quickly discovered that I do not like chewing jelly in my drinks, especially when I'm getting more jelly than drink. I ended up drinking about a quarter of it before throwing it out.

We also went to the farmer's market in Ames on Saturday. Very little changed from the last time Meriem, Thomas, and I went to it, so it was pretty boring. We did see a disco statue of Cy (Iowa's mascot), which was unique. It's interesting to see all the different Cy statues that are located around campus and even around Ames.





Astronaut Cy in Howe Hall



Disco Cy on Main Street, Ames

June 22, 2022 by abrophy

Trivia and a New Set of Wheels

The week has been off to a good start. Monday evening, most of us went to trivia night at Old Chicago. It was my first time going and it was fun even though I only knew one answer out of the two rounds of trivia we played. We lost the first round due to a technicality on our final answer, but ended up winning the second round. It was also fun to see that the guy who does the trivia rounds recognizes us as “The Interns” because this was the third week in a row that a group of us went to trivia. Also, since we became known as the interns, that became our team name for the night.

Tuesday evening was also pretty eventful. In the evening, Val dropped off the rest of our bikes in the VRAC parking lot. As someone who hasn’t ridden a bike in a long time, it was actually difficult for me to get started. Whoever said “it’s just like riding a bike” and that “you never forget how to ride a bike” definitely lied because I totally forgot how to get going. Val also told me that the bike I had wasn’t the easiest one to learn on. I had a lot of trouble in the beginning getting used to the bike and where the brakes were, but after a lot of practice I was able to do a couple laps around the parking lot successfully. My turns

were still a bit shaky and stopping/dismounting was very ungraceful, so I ultimately decided I was not comfortable riding through campus back to the dorm yet without some more practice first. As a result, I ended up walking my bike back to the dorm which I didn't mind doing. I usually walk to and from VRAC everyday anyways (unless it's raining or way too hot), so it was really no different from usual.



My new wheels