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SPIRE-EIT|2019

Summer Program for Interdisciplinary Research and Education - Emerging Interface Technologies (SPIRE-EIT)



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Syema Ailia



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🛗 July 29, 2019 🛛 🚨 Syema Ailia

Catch Up

Sorry for the hiatus! Its been a whirlwind past few days. From travelling to Minneapolis to present our project at the ersity of Minnesota, to working on our research paper and poster. Not to mention the crazy UNO game nights Uni we've been having at the dorms

Its the last week of our program and I'm feeling all sorts of weird emotions. On the one hand I can't wait to be back in Chicago with my loved ones, on the other I don't want to leave the friends I've made here. I'm not gonna cry. Got to focus on our research paper and poster!

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Bouncing Back (Revenge of the Bug)

🛗 July 16, 2019 🛛 💄 Syema Ailia

You know how I recovered from a cold in my previous post? Welp I got bitten by a literal bug. A horsefly to be precise I went for a run with Roselynn as the host, where a bug locked onto my calf like a vice

We got it done and I was so happy on how we worked as a team

The next few days my leg swelled up like a balloon

which didn't seem normal to me

I guess from bug bites I wasn't immune and shouldn't have let that bug go free

The team at VRAC were so helpful. They took me to urgent care twice to make sure I was OK. Thanks to Eliot, Abby, Andrew and Tiffany for all the help, I really appreciate it!

Aside from that, I've been learning so much. I worked with Tiger over the weekend on partitioning binary data. I was afraid that completing the application wasn't going to leave a lasting impression on my understanding of the material. Tiger helped me by drawing out the problem and I got past the stage of being unassertive and asked more questions.

Our luncheon lecture with Jon Kelly resonated with me. I enjoyed his talk on his journey in obtaining a psychology degree but didn't want to become a psychologist as this would pertain to theoretical papers as opposed to applied research. These luncheon lectures make me question my current goals as a graduate student. They're all so interesting, I wish I could study all of these fields.

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Bouncing Back

🖮 July 8, 2019 🛛 🚨 Syema Ailia

This past week was quite frustrating. I was a walking ball of phlegm for a week, my computer was so slow to the point of opening a file would take half an hour, I couldn't log in to the Spire-EIT site at my dorm so I couldn't do my Gendermag assignment, I couldn't work from home on the shaders assignment because my laptop is rubbish when it comes to game engines, it rained most of the time, I missed some cool discussions at the HCI and Ethics classe and I all in all felt really useless towards my team.

BUT! After many sleep marathons, I finally started to feel better since Friday morning. I rode my bike for nearly 6 miles, following a bike path and not knowing where I'd end up. Paul Easker replaced my PC with another (Thanks Paul!) and Alex Renner gave me good advice on learning better. I think he'd be a great professor

I've basically been stuck on my shaders project for the past three days. Things I've tried

- 1. Downloading over 4 grass packages to find that they don't work with the version of Unity I have 2. Tried making my own grass using a tutorial. I created a terrain with many vertices. When I tried implementing grass on to the terrain my computer shut down and I lost everything.
- 3. Read a bunch of forums on how to effectively make grass.

I gave in and used a grass asset that you can paint with in Unity. I will figure this out when I try making my own game in Unity later down the line.

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Cold in the	Summer			
🖮 July 1, 2019	Syema Ailia			
I've been sick for the past few days and feel strange not being around my team. I feel behind on my coursework so I need to catch up asap. I've been sleeping the past few days so I don't have much to say I'll have more to talk about once I'm back on the grind.				

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Get Your Glow On 06/24

🛗 June 26, 2019 🛛 💄 Syema Ailia

Today we worked on some more shaders in Unity. We learned how to add glow elements to objects and turned the objects into holograms! I love how Unity can create awesome patterns just from any image. So I am able to download an image with a pattern and use it to manipulate objects. For example, I can use a pattern with varying levels of light to dark that can translate into levels of animation depending on the lightness or darkness of the image.

I'm excited to create more interesting scenes within our team

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Shady Business 06/21

🛗 June 23, 2019 🛛 💄 Syema Ailia

Today we dived into Unity shaders. There's a lot tools to familiarise myself with but its all very interesting. One thing I need to fully understand are the Vector functions. Other than that I'm quite excited to learn more about how the

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graphics processor works as well as the shaders language that's used in Visual Studio. We learned that shade In language separate from C#. It kind of reminds me of gems in Ruby. Based on whats being taught right now, I think Unity is a very user friendly learning tool.

Vijay took us under his wing and taught us so much in just one session. I like that he makes sure we all understand before moving on so I'm glad to have picked this deeper dive. It was nice to get to know Vijay and his journey to lowa State. He wasn't able to explain much but I'll pry some more later. I learned a lot about plaster from him too!

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🛗 June 21, 2019 🛛 🚨 Syema Ailia

Burnin down the house 06/20

Now, this is a story all about how My bagel tried to burn the dorm down And I'd like to take a minute I'll tell you where How my roommates saw me wave my towel in the air

Thats all I got. So I woke everyone at 7am due to a minor mishap of my bagel being a little over toasted. I was frantically waving a towel at the fire alarm light, not the actual smoke detector. My roomies were very forgiving, thanks ya'll.

It's been such a strange day. I set the fire alarm off in my dorm, then later my partner told me he missed me setting the fire alarm off in the kitchen at home. Had multiple Deja Vu moments of seeing my mentors Heike and Ganesh, then with Emmanuelle and Tiger. Then after work I tied my hair up and Nina said I looked like Li Shang from Mulan.... I don't know how to respond to her anymore.... Anyway, I later see this in my instagram feed



I'm a Capricorn.

I've been going for walks after work to process the day. I walked to Fareway which is a grocery store in Ames. Its two miles away so in total I've walked 4 miles! The neighbourhoods are very manicured and it makes me feel a little weary of how perfect everything looks. All the homes are massive, clean and prim. Grass is one length. Not a piece of rubbish in sight. I was basically in "The Truman Show". I keep forgetting I'm in Iowa when working at VRAC until I notice the surrounding area. Been born and raised in London, then moved to Chicago. Moving from the city life to Ames makes me question whether I'd be able to handle a lifestyle thats overly different from what I'm used to. Nothing's right I'm torn....

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Diving for...dives 06/19

🛗 June 20, 2019 🛛 🎩 Syema Ailia Today was our last day with Unity. I was too excited for selecting our deeper dives I kept wondering what was next in store for us. Probably because I got into the habit of moving on to the next topic after each crash course. I'm glad we'll be able to spend more time on our chosen "dive"? My first choice was GPU Programming, more specifically Unity

Shaders, second choice was 3D Printing and third was VR development. I got Unity Shaders! Excited!

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Do not print, increment. 06/18

🖮 June 19, 2019 🛛 🎩 Syema Ailia

Early in the day we went to CSafe to talk about the next steps of our assignment. We have already completed the binary parser and displayed the data in a pretty matrix. We talked about the program taking too long to print the entire data to a text file and was told that we no longer need to print (which was making the program take too long to complete) but to increment by 1 every time an NaN occurs in the data (number of missing values). Then calculate the percentage (total no. of NaNs/total value) It felt good to get the next steps that were broken down by our mentors

Dr. Jing Dong was our luncheon speaker today. She is a transportation engineer at the Center for Transportation Research and Education. She works on cutting edge automation technology for transportation. She informed us that although we're constantly told that fully automated cars will be on the road in a few years, she talks about all the reasons as to why this wouldn't happen so soon as there are many surrounding factors that are not entirely considered when driving a fully automated vehicle as well as the prolonged legalities that come with new technology. She reminded us that technological progress is incremental, not a jump from cruise control to fully automated cars.

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Uniting Maya with Unity 06/17

🎬 June 18, 2019 🛛 🎩 Syema Ailia

Today we imported our scene project from Maya into Unity. I think Unity is quite similar to Maya in terms of design tools but allows for easier rendering for gaming applications. Learning how to use Unity wasn't as difficult as I thought. I realised I like C# more than C++ as the documentation for it is really easy to understand 🙂 I want to make a side scroller game as my first project and after our tutorial its made me feel less overwhelmed in implementing it.

Did I mention I love riding my bike? Its been years since I've ridden one and doing so here reminded me how ome it is. My legs are getting stronger and feel healthier! Contemplating on whether to buy one once I head back to Chicago but there are just too many potholes and mean drivers around...

I need to start thinking about questions to ask my mentors regarding our research paper as I'll be working on creating a poster tomorrow.

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HCI: Bad User Design

🛗 June 15, 2019 🛛 💄 Syema Ailia

Hi everyone! Today I will discuss terrible user design. Growing up I would get very annoyed when I'd find glass ketchup bottles at restaurants. Ketchup is a lovely tomato based condiment and mixed with mayonnaise, can be eaten with fried starchy foods/meats. When you get a hot plate of delicious food, all you need is a side of ketchup to complete the meal

However your food will get cold. That sauce will not leave that bottle. What will make it better is a plastic bottle which does exist, but my point is glass bottles need to stop existing





ONLY TWO WAYS TO INSERT

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Luncheon Lecture and OUR CODE RUNS! 06/13

🛗 June 14, 2019 🛛 🚨 Syema Ailia

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We had a luncheon with Professor Rick Stone and became very inspired with his life story. He has done so much in his life! He does research in human performance enhancement in both physical and mental domains. He is a certified welder, a sheriffs deputy, commercial diver... The list just goes on! I'm interested in working in data science for the military specifically in Intelligence. Hearing that Professor Stone worked with the military to produce "An Upper Body leton for Firearm Training" moved me.

As for the parsing binary files in C++, IT WORKS! I wanted to revise the code so I asked the talented staff at VRAC to spare some time to view our work and hear their take on it. I'm very grateful to be an intern at VRAC, everyone is so helpful and generous. I will try to absorb all that I can!

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Maya and Papaya 06/12

🛗 June 14, 2019 🛛 🎩 Syema Ailia

Today we delved into wonderful world of Maya. I loved working in Maya as its more intuitive and forgiving compared to the nitty gritty constraints from SolidWorks. Maya can allow for mistakes, but I think this is fine to just play around in especially for the fact that we will only be using it for two days. I made a cat which few people believed it to be either a cangaroo with swole legs or a chicken. I can't even fathom how they conjured up these assumptions as the differences are so far apart, are but I appreciate their efforts.

It was nice getting to know Kate. I was gobsmacked when she told me that shes an undergrad because she taught the class like a pro. We bonded over our cats as we both like our furry introverts. She just adopted a kitten two w ago. Her name is Papaya because of Kate's long struggle of trying to eat one. Can confirm she hasn't been able to munch on one just yet. But Papaya (her kitten) is a good replacement for the unattainable fruit.

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So SolidWorks? / High Code Load 06/10

🛗 June 11, 2019 🛛 🎩 Syema Ailia

Now here's something I am completely terrible at but love. Probably because I can visualise the problems that I want to fix right away. I'm hoping to have some good understanding about SolidWorks to make some awesome projects. Although we used a tutorial to familiarise ourselves with the program, I'm already imagining more complicated objects I'd like to work with.

00:00 / 00:00 For my Ballistics project we needed to parse an x3p file (binary file) to

output values/NaN which will allow us to determine whether a bullet scar with many missing values was caused by human error or contains actua

break-off. I've tried to work on this since Friday night and am still finding trouble. Our mentor Ganesh told us to practice actually parsing binary files. I've searched high and low for something that should be simple enough...

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Dope Ropes 06/08

🛗 June 11, 2019 🛛 🎩 Syema Ailia

We got up bright and early to drive to the Iowa Valley Adventures Challenge Course. I was thinking of all worst case scenarios whilst driving to the course. When we got there we were informed that if anyone were to use the bathrooms in the building near the course we'd need to be mindful of the democratic event being held as Bernie Sanders was giving a speech o_o. It was a nice distraction from the actual course that could end my life....

Watching each team member get hoisted up on the ropes by the strength of our 10 research students was awesome. orked together to lift one person, which was a nice thought. We all w

As I watched as each person drop and swing on the ropes, I decided that if I'm going to do this, I will give it my all. I let the team hoist me to the highest point and let go. IT WAS AWESOME! I definitely want to do this again. It also

removed any fears for rock climbing which is something I always wanted to do. I have to try this out at the state gym 💷 Uncategorized 🛛 🖳 Leave a reply

🛗 June 7, 2019 🛛 💄 Syema Ailia

We went over more inheritance and object oriented programming in C++. I still feel quite behind in learning the syntax of C++ and this is something I need to understand for our Ballistics project. Understanding the use of a header file amongst other things is going over my head. I took Programming I in Java and thought this was sufficient to learn in the program. But hearing Bradon, Kelsey and Tiger explain their take on C++ helped. Thanks ya'll! I'll continue to learn how to utilise this program over the weekend. Thanks to Adam Kohl in trying to get me to understand C++ also.

I want to bring these C++ files on to my laptop using Xcode and Alex told me about CMake which is a simple platform and compiler that generates native makefiles and workspaces that can be used in the compiler environment of choice. Its so cool!

Gotta learn to focus on one thing at a time!

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Luncheon with Evrim Baran 06/06

🖮 June 7, 2019 🛛 🎩 Syema Ailia

Meeting Evrim Baran was really inspirational. She has PhD's in Human Computer Interaction, and Curriculum and Instructional Technology. She has shared her expertise all over the world from Germany to Turkey and has written over 30 publications in the past 10 years. I was suprised to hear that she started coding in COBOL and Pascal at the age of 14. I want to be like her!

Emmanuelle, Tiger, and I went to CSafe to further understand where we stand on our next step 😌 We chose to write our problem statement and learned more about the OpenFMC library. We will need to figure out how to read in a binary file on C++ and have it converted into readable text instead of weird characters

After that meeting I went for my appointment because I wasn't feeling too well since last night and unfortunately had to miss game night 🥮 I got back to my dorm and knocked out. I woke up to have dinner and study. I'm glad Roselynn liked the chicken curry I made and finished it because I was all curried out.

Even though I wasn't feeling great, my roommates helped me forget. They constantly crack me up. I love hanging out with them and am so lucky to be able to stay with them. $\stackrel{@}{:}$

Another day of C++

🛗 June 5, 2019 🛛 💄 Syema Ailia

Help I'm struggling with Fibonnaci sequence and I can't get up. I had worked on this formula a while back I'm going to have to practice a lot tonight to feel comfortable with it. I tend to overthink problems and gotta learn to write out each step of what I'm trying to do. Well if there's any time to walk in uncharted territory its now and I'm glad.

For lunch I got to try Jeff's pizza with Kelsey and Nina. I was guite skeptical of the guality since it was only 5 bucks for two slices but to my surprise it was really good! Its been a while since I had such good pizza. On the way back to campus we saw the student dorms and their cute names for each floor. I could see myself in one of them 😢

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Wine and dine with Winer

🛗 June 4, 2019 🛛 💄 Syema Ailia

This morning we went over Craft of Research and what it means to initiate theory. I'm generally terrible at writing so when we had to suddenly apply these concepts to paper, my imposter syndrome popped up to say hi. I think this is

something I'm going to learn to accept but just to be mindful of when it happens will help.

When we had a luncheon with Eliot Winer, his talk helped me be present rather than worry. He talked about his journey in figuring out what he wanted to do and all the weird situations that arose that determined his decisions. It is funny how we try to control our future as much as we can but to no avail and he definitely reminded us of that. I really enjoyed his talk because of the passion he exuded about his career and that is something I strive for

We went to Ada Hayden park for a barbecue for some burgers. I was excited to have dinner after a long day but it was all pork! So I didn't get to eat dinner until I got home 😢 Frisbee was fun though



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Week 2

🛗 June 3, 2019 🛛 💄 Syema Ailia

Whats the fuss with C++?

Today we dived straight into learning the C++ language. Being a computer science student, I thought this would be very similar to Java as they are both object oriented languages. Boy was I wrong. C++ handles memory allocation very differently to Java. Developers manage memory allocation in C++ using pointers whereas in Java this is not needed. I don't understand pointers at all! This is the part that is quite confusing to understand but I will not give up until its "ingrained in the membrane". It's this to learn a new language when familiar with another because I can compare and understand their differences. For now we basically went over the basic syntax of C++ and how to print Hello World and a shopping list on to the console.

int main()

}

std::cout << "Hello World this " << "is " << "Syema " << "we need:" << std::e	ndl; // Prints out
hello world, my name and a shopping list	
<pre>std::cout << "Milk" << std::endl;</pre>	
<pre>std::cout << "Eggs" << std::endl;</pre>	
<pre>std::cout << "Bread" << std::endl;</pre>	

Lunch was great. I learned more about the students and their backgrounds. Its nice to know we have such a diverse group of students to work alongside with. I'm looking forward to learn more about them in the coming weeks

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Week 1

🛗 June 3, 2019 🛛 💄 Syema Ailia

Now that my blog account is working, I can finally talk about my week! But from here on out it will be a daily update!

Tuesday 5/28

Flying in from Chicago to Ames was quite nerve wracking. There was so much that I was anticipating for the next few weeks from moving from a large city to a university town to wondering whether what I currently know will be of any use to the program. Once I met Abby Boytos and Andrew Zaman I felt at ease knowing that they would be our advisors. They're really inspiring because they are graduate psychology students consistently looking to hone their craft but at the same time were humble and fun to hang out with. It made me consider becoming a grad student at Iowa State too!

Meeting Stephen Gilbert and Eliot Winer at the welcome dinner was an amazing experience. It was such a lovely welcome at Stephen's home and to meet his two sons. Eliot and Stephen explained the research process and their expectations of us this summer. This further helped me settle in with ease knowing I'd be working alongside awesome professors at Iowa State

Wednesday 5/29

Today we had breakfast at Howe Hall where we'd be doing most of our group work. I was surprised at how far the campus looked from our apartments on the map but the walk to campus was so lovely. We passed horses in their stables, saw baby bunnies grazing, and chipmunks dashing from one tree to another. It only took around 10 minutes to and from the school.

We went to get our student ID cards sorted and they needed a current ID card from us. I pulled out my drivers licence all proud only to find that it was expired since January 2019. That was a bummer

Having lunch at the Union Drive Marketolace was so cool. I was spoilt for choice but because it was a buffet. I got to have a bit of everything! Soft serve on demand was the cherry on top! Knowing I have access to this isn't good for my waistline.

Thursday 5/30

I came in extra early to get my ID card sorted out. Felt much better getting that done. We got to meet our faculty members and mentor. Susan VanderPlas is full of energy and Ganesh Krishnan is hilarious! When they explained more about the bullet scans and what they're expecting of us, I became even more motivated to get started. We have yet to meet our other faculty mentor Heike Hofmann but looking I'm forward to it!

We had a lecture on what good research is about and it finally gave me a somewhat aha moment. Hopefully applying these concepts is as easy as understanding them

Fridav 5/31

In the morning we took the Myers Briggs assessment. My personality type is INTP which means I'm a "Logician" Apparently I share the same personality type with the likes of Albert Einstein, Blaise Pascal and Isaac Newton. Please god let this be true.

The assessment was more about understanding our teamwork traits and to only take the results of this asse with a grain of salt. If we utilise our strengths and explain our weaknesses to our teammates, it'd help with the flow of teamy

I'm so grateful to have my first VR experience at VRAC's C6 because it is the world's highest resolution, fully immersive virtual environment! It made me think of all the possibilities related to this technology and how to create impactful, ethical programs

Saturday 6/1

I got a free bike from helping Val organise her bike shop! I hadn't ridden a bike in ten years and was nervous because we were to ride our bikes back to our apartments which is 2 miles away. But because I was with Nina, Tige and Roselyn, I felt brave enough to ride with them. I haven't begun my research but riding my bike with such an awesome team was already an accomplishment in itself. My butt hurts though.

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