Edward Youn

407 Windsor Manor Ct., Johns Creek, GA 30097
(678) 897-9788 | edwardyoun02@gmail.com

EDUCATION

The University of Georgia, Athens, GA — Aug 2020 - May 2024
Morehead Honors College, Honors Program
Bachelor of Computer Science, Graduated with Honors
GPA: 3.87/4

Oxford University, Oxford, UK — Sep 2023 – Dec 2023
Abroad Study

Johns Creek High School, Duluth, GA — Aug 2016 – May 2020
High School Diploma

Honors & Awards: Zell Miller Scholarship
The President's Volunteer Service Award, Gold
Scholastic Art and Writing Award, Gold Key

COMMUNITY INVOLVEMENT

City Hope Community, *Volunteer* — Nov 2016 – May 2020

- Assisted refugee families settling in the U.S. by developing children's reading, mathematical, and critical thinking skills through creative lesson plans and activities
- Took photographs at the organization's events such as Vacation Bible School and Gala

Living Hope, *President* — Aug 2016 – May 2020

- Raised money for organizations that help the less fortunate people around the world
- Worked at rehab centers and hospitals to bring joy to the patients there

SKILLS & INTERESTS

Computer Languages:
- Java
- C/C++
- Python

Foreign Language:
- Korean (intermediate)

Interests:
- Software Programming
- Computer Security

Classes:
- Software Engineering
- Mobile Software Engineering
- Web Programming
- Data Structures
- Computer Architecture Organization
- Systems Programming

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- Software Development
- Computer Networks
- Data Mining

RESEARCH

Decision Processes Lab GA Tech Aug 2024

- Creating code with Prof. Thomas on being able to identify diseases based on specific symptoms used as input.

WORK EXPERIENCE

IACE Academy, *Tutor* June 2020 – Dec 2022
Head Tutor Jan 2023 - Current

- Tutoring students in Mathematics, Reading, and Writing in both the SAT and ACT

Living Hope, *President* Aug 2019 – Current

- A Disaster and Humanitarian Relief organization made to address critical local and world crises
- Managed the money from our fundraisers and budgeted out where the money would go when we donated to organizations.
- Planned bi-weekly meetings and made sure that the members were on the same page as me to continue or start a new project to raise money.
- Planned out the fundraisers and how to make money to donate to which organizations.
- Successful past projects:
- Funds for Australian Wild Fires (raised $300+)
- Funds for Corona Relief (raised $100+)
- Baby Doll Drive for Dementia Patients at the Northside Hospital (collected 30 baby dolls for dementia patients)
- Operation Christmas Child (provided gifts for 15+ children)
- Hand Lotion Drive for Nurses at the Northside Hospital (collected 60+ bottles of lotion)
- Snacks for Nurses at the Northside Hospital (collected food and drinks for nurses)
- City Hope Food Drive (collected Thanksgiving for refugee families)
- City Hope Coat Drive (collected 50+ coats for refugee families)
- Book Drive for City Hope (collected four bins of books for refugee children)
- Atlanta Ukraine Relief Drive (collected food and basic necessities)

Projects

Transforming Sentiment Analysis Jan 2024 - May 2024
Coder

- Evaluate and compare various machine learning and transformer models for sentiment analysis on tweets related to the upcoming 2024 presidential election

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Cinema Booking System Jan 2023 - May 2023
Team Leader

- Created a cinema booking website where users can search up movies, find movies currently running, book movies, and book seats.
- Responsible for coding, assigning roles to all members, creating the entire schedule, and checking on everyone on progression

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This academic program offers every facility I need to reach my goals. It meshes both of my priority research areas, AI, network, and machine learning, as well as courses I wish I could have taken as an undergraduate. Having the opportunity to now try these courses excites me due to the knowledge I would gain and the potential pathways that may be unlocked from these courses, such as cybersecurity. The courses within the area of AI & Applications, for example, would be a new and exciting experience, allowing me to pursue my passions. Other courses from the Systems and Theory area would also be helpful for my future projects including using transformer models to identify and classify diseases with symptoms efficiently. I am already currently in GA Tech's DPL (Decision Process Lab) researching an efficient method of classifying diseases with symptoms using Python and wish to expand upon that.

I hope to work on an AI-related project for my thesis that analyzes how humans identify diseases based on symptoms. This topic builds on my current project with Professor Thomas. My current research classifies diseases based on symptoms, and with the help of AI, could eventually result in diseases being identified faster or discovering correlations between symptoms and diseases not discovered before. This would have a beneficial impact on not only the future of medicine but on everyone in the world who is sick and needs faster, more accessible medical attention. Architectures from cognitive science can be effectively leveraged for AI, offering the distinct advantage of being more human-readable compared to many transformer-based systems. Furthermore, my research in the Decision Processes Laboratory (DPL) explores search termination decisions—a critical consideration for both humans and AI. Any decision-making entity must determine when continuing a search is less productive than stopping and making a decision under the current state of uncertainty. Consequently, models that encapsulate human reasoning and intelligence have the potential to both inform and enhance AI systems.

Besides AI, I also want to work on a cybersecurity project against phishing emails. I would gather phishing scams from the past and present to extract specific features, including URLs, subjects, etc. I would then use a model, like a transformer model, to identify key features that phishing scams share, and then compare the key features between the past and current scams to see their evolution and figure out the pattern or new method that allows them to bypass the current security measures. I would then work on code that combats the current phishing scams and code that could handle future scams.

Such research in cybersecurity and medicine aligns with my goals of using AI to address local and global crises. With my background in data mining and machine learning, I hope to develop innovative solutions to advance the fields and create a meaningful difference in people's lives.

I was the leader of our team in my Software Engineering course. Our term project consisted of creating a movie booking website, encompassing user features such as checking currently available movies, buying tickets, and booking seats. There were also several other requirements, such as a login system for ticket buyers. The project was split into multiple parts, each due on a specific date.

I organized every component of the website and assigned them to my teammates who varied in skills, from network programming to system analysis; I ensured that each member received the proper part. I checked that all work was done two days before the due date then tested and debugged any unexpected errors. With this system, we never missed a due date and had no rush with handling issues. I announced every due date and notice to keep my teammates on track and confirmed everyone was making progress by requiring them to record work for the day. Of course, not everyone worked every day, so I was understanding and kept it professional.

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As a leader, it was important to show professionalism and maintain respect among my teammates so that they could feel comfortable working.

For coding, I worked on the front end, which involved all of the visuals and login screen. I made sure to properly communicate with the people working on the backend so that all the buttons and inputs worked properly. We worked in VisualCodeStudio and Github since Github desktop makes it convenient to access both VSC and changes.

My experience in this project is relevant to this program since it demonstrates my capabilities of being a leader, organizer, and consistent progressor. Based on my research with Professor Thomas, I noticed that research is usually split up into multiple parts, which I can handle. I am extremely confident that I can lead another team for any research. Even if others cannot work, I am very flexible and confident that I can fill any part with my CS knowledge and experience.

As a graduate student, I want to innovate ground-breaking technology- not just innovate a simple convenient tool. I want to innovate big and make sure my work is curated towards helping underprivileged communities- such as the refugee population. I don't want to stop at just identifying diseases. I want to create technology that would benefit third-world countries and more. As the Vice President of Living Hope at Tech, we help refugee populations and hospitals, addressing local and global crises. Currently, we are organizing a winter coat and food drive for the Clarkston refugees, and I've noticed that healthcare is a struggle for them. By continuing my service to them, I hope to make healthcare technology broadly accessible for them, and anyone who needs it, incorporating AI while doing so.

I lack research in my resume; however, I do not plan to come into this program unprepared. With my current research with Professor Thomas in the Decision Process Lab, I am committed to working on my project like it is my full-time job. I feel that besides many research experiences spread between labs without passion, pouring my time and effort into one lab with a project I value is more beneficial for me. I believe that I can continue to efficiently do research in DPL, as well as other research opportunities that I will pick up. I also lack internship experience, but this is due to helping out my parents with the academy every summer. The challenges of owning a small business entail not having enough staff to keep the place running. As their son, I prioritize my parents, which led me to teach children over the summers instead of software internships. I can always get more industry experience later, though time with my parents and the business are not guaranteed future opportunities. Despite not working on software, I created small projects to not lose my passion while teaching children, forming bonds, and connecting with my community.

I envision myself focused on creating software that ranges from video games for children to applications that can identify diseases based on symptoms. Essentially, I want to create software that serves and makes an impact on people across the globe. I believe I can accomplish this with the research and experience I could get from getting into this program. With the invaluable lessons Columbia has to offer, my career would have the backbone to make a true impact.