Monisha Krothapalli

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EDUCATION

University of Pennsylvania - Philadelphia, PA 19104 | (215) 898-5000   Aug 2023 - May 2027 (Expected)
Bachelor of Science in Engineering (B.S.E.), Computer Science
Relevant Courses: Programming Languages and Techniques II, Intro to Computer Systems, Linear Algebra, Probability

Tesla STEM High School – Redmond, WA   Sep 2019 - Jun 2023

SKILLS

Java, Rust, OCaml, Python, C++, C#, C, HTML/JavaScript/CSS, Node.js, Flask, React, MATLAB, WebAssembly, Figma

PROFESSIONAL EXPERIENCE

Develop For Good   Nov 2023 - Feb 2024
Product Manager
- Lead a team to design the app platform for Be a Geek - a non-profit focused on increasing black representation in STEM.
- Responsible for leading client engagement, team communications, and planning product roadmap and releases.

Microsoft   Aug 2022 - Dec 2022
Leap and Discovery Program Volunteer
- Conducted a market research project to attract more underprivileged youth to be trained in the computer science field at Microsoft and improve the current programs' curriculums.
- Compiled and analyzed data of over 50 similar youth programs in the United States and used data collected from student surveys to identify areas of weakness and strength.
- Delivered and presented a slide deck of key observations and suggestions to program founders and developers.

LEADERSHIP EXPERIENCE .

Girls Who Code Club at Tesla STEM High School   Sep 2020 - Jun 2023
Founder and President
- Taught coding languages such as C++, Python, Java, HTML/JavaScript and worked on building projects such as websites and apps with 15+ members.
- Hosted college panels, invited multiple guest speakers throughout the year, and participated/placed in competitions as a club.
- Organized and created a curriculum for middle school coding workshops with 30+ participants across the district.

Med-O-Vate Hackathon   Dec 2020 - Apr 2021
Director of Media
- Organized a virtual biotechnology hackathon with 2 other students with invited speakers from Fred Hutchinson Cancer Research Center, Sam's Lab, startups, and more with 120+ international participants.
- Reached out to sponsors, speakers, and partners to host our competition and designed promotional material and raised over $1000 in funding from companies like Geek Wire and Estes Rockets.

PROJECTS

Full Stack LLM Application   2024
Developer – Flask, React, Python, OpenAI
- Built a full stack LLM application that scrapes the content of a website inputted by a user and answers related queries.
- Built the backend with Flask skeleton, and used Pinecone's vector database to store the embedded information.
- Utilized RAG framework to query the database to provide the most relevant context to feed to OpenAI based on user query.

Brush - A Programming Language for Generative Art   2023
Developer – Rust, HTML/JavaScript/CSS, Node.js, WebAssembly
- Built a beginner friendly programming language to create generative art along with 4 other students through a semester long project using Rust to build an interpreter and compiler.
- Designed a responsive website using HTML, JavaScript, and WebAssembly compatible with various devices and operating systems for users to practice writing code in our language and display results in real time.

Kiki – A Modernized Video Game Based off Kirby's Adventure   2022
Developer – C#, Game Development
- Used the Minimalist Game Development Framework, worked with a team of 4 students to develop a re-imagined version of the game Kirby's Adventure.
- Designed our own assets, storyline, and player-game dynamics using the MDA framework.

Independent Research Project   Aug 2021 - Jun 2022
Engineering a Surface Flow Constructed Wetland to Evaluate Efficiency for Combating Water Scarcity
- Conducted an engineering research project on utilizing constructed wetlands for treating polluted water pertaining from agricultural runoff and built a prototype wetland that was able to decrease levels of key pollutants by 49.15% on average.
- Conducted literature reviews and analyzed existing technologies related to research topics and wrote a research paper.
- Mentored by professors and graduate students from UW and WSU.

HONORS & AWARDS

Washington State Science and Engineering Fair 1st place category winner in Earth and Environmental Science	Apr 2022
Stockholm Junior Water Prize WA State Winner and Representative	May 2022
Cleantech Competition Semifinalist (Top 30 of 400 international teams)	June 2022
Scholastic Art and Writing Competition Silver Key regional award in Drawing and Illustration	Dec 2022