Dominika Bobik

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LinkedIn | GitHub

EDUCATION

Michigan Technological University: B.S., Computer Engineering 4.0 GPA   2019-2023
Minoring in Mathematical Sciences
Student athlete: Women's Tennis Team
Electrical and Computer Engineering Undergraduate Advisory Board

PROFESSIONAL EXPERIENCE

Software Engineering Intern, Open Systems International   May 2021 - Aug 2021

Developed new features for the power outage management system "Compass" for various customers ranging from private firms to national electric corporations. Implemented dynamic elements in Compass's map software using the MapBox API while maintaining cross-platform compatibility and a positive user experience.
Technologies used: Xamarin, .NET, MapBox, HTML/CSS/JavaScript, and more.

Teaching Lab Assistant, Department of Computer Science, MTU   Sep 2021 - Present

Provided assistance in the laboratory component of introductory programming courses. Helped with debugging and troubleshooting during assignments, explained programming concepts to students.

RESEARCH EXPERIENCE

Undergraduate Research Assistant, Security and Privacy Lab, MTU   Sep 2020 - Present

"Towards Secure Decentralized Cloud Storage by Leveraging Blockchain Technology"

> Researched error-correcting codes that are suitable for flash memory in a decentralized cloud architecture. Implemented polar encoding for data storage in flash memory.

"Ensuring Security of the Internet of Things Network"
> Led a research study in cloud system security focusing on the software stack provided by Amazon Web Services (AWS). The study was focused on the security aspects of IoT, and routing protocols provided by AWS and how other technologies can be adapted to IoT environments.

Undergraduate Research Assistant, Abadi Lab, MTU   Jan 2020 - Sep 2020

Conducted the study on developing fully mature cardiac cells from neonatal rat cardiomyocytes. Maintained cell culture seeded on a conductive carbon nanotube scaffold (CNT), imagined cell culture using CIF and SEM Microscopes, participated in Cardiomyocyte Isolation Protocol, and much more.

"Mechanical Stimulation of Cardiomyocytes Seeded on the Carbon Nanotube Forest Scaffold for Producing Mature and Functional Cells"
> Using Siemens NX designed a custom device that provided dual electrical and mechanical stimuli to the cells.

SKILLS

Programming Languages		Software	Management	Foreign Languages
C/C++	TypeScript	Git	SCRUM / Agile	English
C#	Bash/ UNIX	AWS	Microsoft Office	Polish
Java	MIPS	Virtual Box	Google GSuite	German
JavaScript	Verilog HDL	MATLAB		

PROJECTS

Resistor Color Decoder, GitHub   Oct 2021
Made a web app that finds color code based on the resistance of the basic circuit component.
Technologies: TypeScript, React Native, Expo

Calculator App, GitHub   Dec 2020
Wrote an android application in Java that performs 12 distinct mathematical operations. Designed a scalable, vertical layout that is more suitable than the default one.
Technologies: Android Studio, Java

Blue Marble Security Enterprise, MTU   Nov 2020 - Dec 2020
Worked on a team of software engineering students focusing on implementing autonomous pathfinding into a testing robot using the Robot Operating System (ROS) written in C++ and Python.
Provided community outreach and educated the team on circuit design and soldering techniques.