Dominika Bobik

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EDUCATION

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

PROFESSIONAL EXPERIENCE

Software Engineer Intern, Microsoft Corporation May 2022 - Aug 2022

Created a DNS Proxy that added the DoH (DNS over HTTPS) functionality to the Windows OS increasing overall security.
Technologies used: C, C++

Software Engineer 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.

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.

"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, 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 a 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

Personal Website, GitHub Jan 2022
Designed a personal website that can be seen at dominikabobik.com
Technologies: TypeScript, React, Next.js

Robotics Systems Enterprise, MTU Jan 2022 - Present
Worked on implementing the autonomous following behavior in a 5-robot convoy using data from Lidar sensors.

eeAID, Project | GitHub Jun 2022
Made a progressive web app that finds color code based on the resistance of the basic circuit component and does calculations commonly used by electrical engineers.
Technologies: TypeScript, React, Next.js

Dbank, GitHub May 2022
Created a commandline-based banking application using Supabase as a database of choice.
Technologies: JavaScript, Supabase