MICHAEL LUU

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EDUCATION

Pennsylvania State University *Expected Graduation: May 2028*
Bachelor of Science, Computer Science *State College, PA*
Minor in Computer Engineering and Aerospace Engineering *GPA: 3.98*

EXPERIENCE

Software Engineer Intern *February 2024 – August 2024*
Lancaster-Lebanon IU13
- Collaborated with a team to develop a multi-page website with C#, ASP.NET Core, SQL, and JavaScript
- Integrated a **company-wide** localization framework, improving multi-language support across all company sites
- Completed daily workshops on DevOps, REST API, cloud computing, and Version Control
- Orchestrated the development of an automated SMS appointment reminder system for client websites, processing **1,000+** daily notifications across **22 school districts** with an estimated traffic of over **≈50,000 monthly users**

Assistant Researcher - Machine Learning in Analyzing Joint Health *August 2024 - Present*
Pennsylvania State University MC REU
- Collaborated with a biomedical engineering student to develop machine learning models to classify ligament damage from MRI and X-ray images.
- Explored image processing techniques (CNN) to analyze joint health and enhance diagnostic methods.
- Presented research findings at the MC REU Exhibition, demonstrating the potential for AI to reduce diagnostic time by an estimated **40%** in orthopedic clinics.

Tech Support Volunteer *August 2023 - December 2023*
Manheim Township School District
- Resolved **75+** technical support tickets for laptops and tablets, maintaining a high user satisfaction rate
- Trained and assisted **30+** teachers in implementing and using Schoology LMS and other vital educational tools
- Developed **15** step-by-step troubleshooting guides, reducing the most common repeat technical support requests

PROJECTS

Web3 Crowdfunding Platform | React, Javascript *July 2024 - Present*
- Developed a **Web3** crowdfunding platform using Solidity, enabling secure Ethereum transactions
- Implemented Metamask and smart contract integration for a seamless user experience
- Allowed users to create, view, and donate to real crowdfunding campaigns through the blockchain

Breast Cancer Diagnosis Tool | Python *August 2024 - September 2024*
- Developed a breast cancer diagnosis tool using Numpy, Pandas, and Scikit with a **97%** accuracy rate
- Collaborated with an oncologist to identify improvements for an eventual clinical application

AI-Powered Quiz Generation Platform | Svelte, Golang, Typescript *July 2024 - August 2024*
- Pioneered the development of a real-time quiz platform for **30+** teachers using webhooks, Fiber, and MongoDB.
- Leveraged AI to generate quizzes automatically, bolstering a quiz platform with a limited user-content base

Automatic Window Blind Opener | C++ *June 2024 - August 2024*
- Planned and developed a light-controlled window blind opener using an Arduino, photocells, and a servo
- Developed and implemented the Arduino code to interpret photocell readings and control servo movement

Autonomous Drone System and Navigation | Python August 2023 – October 2024
- Collaborated with a mechanical engineer to develop keyboard-based drone controls using a Tello UAV
- Implemented a face tracking algorithm using OpenCV, enabling surveillance tracking accuracy of up to **95%**
- Engineered a line-following system for autonomous drone navigation, reducing reliance on manual control

FIRST Tech Challenge Robot | Java, Kotlin *August 2023 – July 2024*
- Orchestrated design of custom motion-profiling algorithm for robotic systems
- Improved robot precision by **30%** compared to traditional PID controllers, enhancing overall efficiency
- Leveraged advanced kinematics calculations to refine complex movement trajectories

TECHNICAL SKILLS

Languages: C#, Java, C++, Python, SQL, Typescript/Javascript, Flask, Golang
Frameworks: React, Node.js, Svelte
Clubs: PSU AI And Computing Club, Technology and Engineering Success Club, Cyber Lions