Albert Chen

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EDUCATION

University of Michigan College of Engineering — Ann Arbor, MI
Prospective Bachelor of Science in Engineering in Computer Engineering — *Aug. 2024 – May 2027*

- Relevant Coursework: Introduction to Logic Design, Discrete Math, Introduction to Differential Equations

EXPERIENCE

Undergraduate Research Assistant — Sep. 2024 – Present
MAVRIC Lab @ University of Michigan — *Ann Arbor, MI*

- Developed a Reinforcement Learning algorithm with vSLAM and LiDAR in order to estimate human engagement
- Implemented a **ROS**-based simulation in NVIDIA Isaac Sim to verify the engagement algorithm
- Contributed to weekly lab meetings by presenting progress reports and soliciting feedback from peers and advisors

P-CEP STEM Academy, Group Leader — Sep. 2020 – May 2024
Plymouth High School — *Canton, MI*

- Developed a variety of projects using Raspberry Pis, Arduinos, Tensorflow + Keras, CAD Design, 3D Printing, and CNC Machines, including autonomous race cars and assembly lines
- Created a prototype robot with **Python, C++, OpenCV, and ROS** to automatically plow snow
- Applied machine learning frameworks to build data classifiers and GAN network simulations

P-CEP CyberPatriot Team, Captain — Sep. 2021 – May 2024
Plymouth High School — *Canton, MI*

- Remedied critical vulnerabilities in Linux machines, including weak permissions and misconfigured services.
- Led the team to the semifinals at the Platinum Tier, achieving a rank higher than **30%** out of 5,183 teams
- Developed a **Bash** script to automate repetitive tasks, including software updates and user hardening

Math Competitor — Sep. 2020 – May 2024
Plymouth High School — *Canton, MI*

- Qualified for AIME in multiple years, scoring in the top **2.5%** of all AMC 10/12 test takers
- Oversaw **30** students in the East Middle School math team through group challenges and test reviews, explaining difficult concepts through lecture-style lessons

Lifeguard — Jun. 2023 – Aug. 2024
Canton Township — *Canton, MI*

- Jeff Ellis and Associates certified in CPR and First Aid
- Trained new employees by teaching and practicing job routines with them
- Collaborated with co-workers and communicated with concise instructions to diffuse high stress situations

PROJECTS

Hand Gesture Car Racing | *Mediapipe, Express, PixiJS, Git* — Oct. 2024
Hack Dearborn 3 (Hackathon) — *Dearborn, MI*

- Launched a 2D racing simulator webapp with **PixiJS** and **Express.js** to create smooth and fluid gameplay
- Utilized Google's Mediapipe models to grant users the ability to drive with only their hands and a camera

TECHNICAL SKILLS

Languages:	C/C++, Python, Verilog, Java, SQL, JavaScript, HTML/CSS, Bash
Tools:	ROS, FPGAs, AprilTags, Arduino, Raspberry Pi, CNC machines, 3D printing
Developer Tools:	ModelSim, Quartus, Git, Linux, VS Code, MATLAB
Libraries:	OpenCV, Tensorflow, Keras, PyTorch, pandas, NumPy, Matplotlib

PUBLICATIONS

Wonse Jo, Albert Chen, Helena Sieh, "Development of Human Engagement Estimation Algorithm from Human Visual Perspective-taking," *In Progress*