PAYTON LIAO

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EDUCATION

MEng Robotics and AI, University College London — Sep 2023 - Present

Relevant Coursework: Introduction to Programming, Data Structures and Algorithms, Object-Oriented Programming, and Introduction to Machine Learning, Control

SKILLS

- **Languages:** Python, TypeScript/JavaScript, C/C++
- **Frameworks & Libraries:** PyTorch, TensorFlow, OpenCV, NumPy, Pandas, React.js
- **Tools:** Git, Linux, Jupyter
- **Specialized:** OOP, NLP, Machine Learning, Optimization Techniques

EXPERIENCE

Software Developer — Jul 2024 - Sep 2024

Mo-Sys Engineering — *London, UK*

- Built a sign-language translation Chrome extension prototype using Django and JavaScript, enabling real-time communication accessibility.
- Enhanced user experience by designing and implementing a React-based product website, addressing system bottlenecks.

Research Intern — Jul 2023 - Aug 2023

Grantham Institute, Imperial College London — *London, UK*

- Utilized MATLAB for large-scale data processing and analysis, generating graphical insights for coastal wave research.
- Enhanced simulation accuracy by optimizing variables and improving comparisons with experimental data.
- Leveraged High-Performance Computing (HPC) resources to speed up analysis of complex datasets.

PROJECTS

- **V-Tuber sign language interpreter (first place at AI Hackathon London 2024)**
  - Collaborated in a hackathon-winning project to build a prototype using NLP and computer vision for real-time sign language interpretation.
  - Implemented motion tracking with OpenCV and MediaPipe to bridge communication gaps between spoken and sign language.
- **Tourism Place Searcher**
  - Developed a React app integrated with a back-end server to manage and display tourism destinations.
  - Integrated local storage for saving user preferences and geolocation-based sorting for personalized results.
  - Used HTTP requests for seamless data retrieval and updates.
  - Implemented unit and integration tests to ensure functionality and prevent regressions.
- **Robot Gripper Success Classifier**
  - Simulated a robot gripper in PyBullet and trained a PyTorch-based neural network to predict gripping success using starting XYZ coordinates and roll, pitch, yaw angles.
  - Applied object-oriented programming to design an efficient and modular framework for simulation and experimentation.