

KIERAN PEREIRA

www.linkedin.com/in/kieranpereira1001 • kieranpereira@hotmail.com • +1 (510)-944-8116

3-year STEM OPT work authorization

EDUCATION

University of California, Berkeley, USA

August 2024 – Present

MEng Mechanical Engineering with Robotics and Autonomous Systems

Relevant Coursework: Dynamics and control of Autonomous Systems, Design of Microprocessor Systems.

Capstone Project: *Developing control systems for robotic ocean sensors for swarm coordination.*

- Designed and implemented real-time control algorithms for a fleet of 100+ autonomous robotic units, incorporating rigorous hardware-in-the-loop testing and validation techniques.
- Conducted ocean field testing with 18 units, validating mesh network communication, autonomous control strategies, and hardware performance for robust real-world operation.
- Integrated sensor fusion algorithms to combine data from IMUs, GPS sensors and Wave Force Sensors ocean sensors, enhancing swarm coordination efficiency by 30% during simulation trials.

Skills: C++, Python, Mechatronics, SolidWorks, Hardware-in-the-Loop Testing, Linux, Debugging, Systems Architecture, IoT

University College London (UCL), London, UK

September 2020 – 2024

BEng Mechanical Engineering with Intelligent Systems – First Class Honors (4.0 GPA)

- Capstone Project (4.0 GPA): Created an integrated car dashboard system that recognized and narrated the meaning of traffic signs for inexperienced drivers. Leveraged a custom neural network and refined training processes on 100,000 images. Achieved state-of-the-art precision, outperforming Meta's benchmark model.

WORK EXPERIENCE

HSBC, Global Digital Strategy Analyst, UK

June – August 2024

- Led the integration of global GenAI projects, working with international cross-functional teams to use new technology to reduce digital product time-to-market by 11%.
- Performed detailed statistical analyses that uncovered \$300K in savings through a restructuring of workforce allocation.
- Orchestrated program communications to stakeholders, including metrics progress, meeting AIs and decision logs.
- Partnered with customers to capture over 40 design requirements, documenting and relaying them to technical teams.

Skills: Data Analysis, Excel, Jira, Agile, Stakeholder Management, Technical Communication, Product Management

Lockheed Martin, Software & Systems Engineer, UK

June 2023 – June 2024

- Led a self-proposed project leveraging machine learning for automating quality control processes and collaborated with an international team, presenting a strategic plan to senior stakeholders to secure £100,000 for a pilot.
- Collaborated directly with customers to formulate customer requirements and user features for safety-critical systems, architecting these into 600+ design requirements for engineering teams.
- Performed system integration, calibration, and real-time data acquisition for safety-critical applications.

Skills: Python, C++, Jira, Machine Learning, GitLab CI/CD Pipelines, Agile Software Development, Waterfall

University College London, Machine Learning Researcher, London, UK

June – September 2022

- Developed a real-time image classification system for medical diagnostics, achieving 90% accuracy.
- Collaborated closely with clinicians in the NHS, accessing private clinical datasets to meet real-world medical needs.
- Implemented robust signal processing and feature extraction techniques to improve model performance by 15%.
- Performed hardware-in the loop experimentation to produce working prototype

Skills: Python, Data Analytics, OpenCV, YOLOv6, PyTorch, Project Management, Stakeholder Engagement

LEADERSHIP EXPERIENCE

Obsidian Performance Gear- Full Motion Tracking Wearables, CTO, Berkeley, USA

August 2024 – Present

- Founded and led an interdisciplinary team of 7 to design and develop a connected wearable system that enhances athletic performance across multiple sports through real-time motion tracking and personalized feedback.
- Integrated IoT-enabled hardware, a machine learning recommendation system and sensor fusion algorithms (Kalman Filters) achieving 95% precision to actual movement.

Skills: C++, Python, Git, Wiring Design, PCB Design, AutoCAD, IoT, Jira, AI, LABVIEW, Electromechanical design

Berkeley Robotics Lab- Robotic Quadrupedal Running, Lead Researcher, Berkeley, USA

August 2024 – May 2025

- Developed and tested control algorithms for a robotic quadruped with running blades for high-speed locomotion.
- Implemented reinforcement learning numerical optimization techniques for enhanced stability and maneuverability.
- Achieved a top running speed of 8 km/h, a 47% improvement over comparable systems, while maximizing hardware reliability and performance during locomotion.

Skills: ROS2, MATLAB, Simulink, SimScape Multibody, SolidWorks, LABVIEW, Control Systems, Technical Communication

Lead Controls Engineer, IMechE UAV Challenge, London– 4th / 32

September 2022 – May 2023

- Led a team in the design and implementation of an image recognition guidance system for an autonomous helicopter.
- Designed and executed experimental validation procedures for hardware performance characterization.
- Coordinated cross-functional collaboration across 6 teams (42 engineers), ensuring we met 256 design requirements.