KIERAN PEREIRA

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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: Vehicle Dynamics and Control, Robotic Locomotion, Advanced Control Systems.

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

- Developed real-time algorithms to control and simulate behavior for 100+ autonomous robotic units.
- Optimized data transfer frameworks for cloud-based storage and analysis using ROS2 and Python.
- Iteratively optimized design of hull and rudder based on research papers and field-testing performance.

Skills: *C++, Python, SolidWorks, Microprocessor Design, Technical Communication, Stakeholder Management*

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 Internship, UK **June – August 2024**

- Conducted statistical analysis to develop transformation strategies, identifying $300k in potential savings.
- Collaborated with global cross-functional teams in seven countries to align strategies for digital transformation projects, ensuring stakeholder needs were met through effective collaboration and communication.
- Led customer-facing discussions to address pain points in existing processes, developing solutions that reduced time-to-market for digital products by 11%.

Skills: *Data Analysis, Excel, Process Optimization, Stakeholder Management, Technical Communication, Project Management*

Lockheed Martin, Software & Systems Engineering Year Internship, UK **June 2023 – June 2024**

- Collaborated on system architecture to integrate hardware and software, ensuring compliance with regulatory standards for safety-critical radar systems.
- Designed software to simulate 500+ entities, ensuring real-time accuracy in complex networked environments.
- Led a self-proposed project leveraging machine learning for enhancing quality control. Worked with an international team to form requirements and presented a strategic plan to senior stakeholders, securing £100,000 for a pilot.
- Partnered with internal and external stakeholders to review system designs, resolve deployment challenges, and communicate updates effectively.

Skills*:* *Python, C++, Jira, Simulation Frameworks, Machine Learning, Technical Communication*

University College London, Machine Learning Researcher, London, UK **June – September 2022**

- Designed and implemented a computer vision pipeline for healthcare applications, achieving 90% classification accuracy for skin conditions using advanced machine learning techniques.
- Worked closely with clinicians in the NHS, accessing private clinical datasets to meet real-world medical research needs.

Skills: *Python, Data Analytics, Machine Learning, Technical Communication, Project Management, Stakeholder Engagement*

LEADERSHIP EXPERIENCE

Obsidian Performance Gear- Full Motion Tracking Wearable, CTO, Berkeley, USA **August 2024 – Present**

- Founded and leading 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.
- Designed IoT-enabled hardware using ESP32 and a machine learning recommendation system for real-time analytics.
- Developed a cross-platform app for real-time motion analytics and visualization.

Skills*:* *C++, SolidWorks, Python, Flutter, Machine Learning, IoT, App Development, Machine Learning, Project Management*

Berkeley Robotics Lab- Robotic Quadrupedal Running, Lead Researcher, Berkeley, USA **August 2024 – May 2025**

- Led a team of five engineers to develop control algorithms for a running quadruped robot with running blades for search & rescue missions using novel reinforcement learning approaches.
- Achieved a top running speed of 8 km/h, achieving a 47% faster speed compared to Boston Dynamics' Spot whilst maximizing stability during locomotion.

Skills*:* *ROS2, MATLAB, Simulink, SimScape Multibody, SolidWorks, 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.
- Coordinated cross-functional collaboration across 6 teams (42 engineers), ensuring we met 256 design requirements.

Skills: *Python, C++20, SolidWorks, PyTorch, Excel, Teamwork & Collaboration, Data Analytics, Leadership, Mechatronics*