Will Terry

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Skills & Technologies

- **Programming Languages:** Python, C++, C
- **Libraries & Packages:** NumPy, SciKit-Learn, PyTorch, Matplotlib, OpenCV
- **Technologies & Tools:** Ubuntu, Embedded Systems - Arduino and STM32, Fusion360, COLMAP, ORB-SLAM2, Factor Graphs, MoveIt, ROS

Experience

Teaching Assistant Roles, University College London — Aug 2025 – Present

- Embedded Systems: Developed 5 weekly STM32 projects with instructions for final year undergraduates and assisted with lab work and setup.
- Computer Vision: Assisted in Computer Vision Lab work for undergraduate students.

Product Management Intern, Edwards Vacuum (Burgess Hill, UK) — June 2024 – Sept 2024

- Designed and built a company-wide product configurator using PowerBI, resulting in global reach and the start of a larger project.
- **Trusted** with onboarding 2 graduates, teaching them knowledge and skills acquired in a short tenure.
- President of Vacuum Chamber Solutions acknowledged contributions on the project.
- Extended contract by two weeks based on **outstanding performance**.

Senior Supervisor, Dilli Curry Restaurant (Haslemere, UK) — June 2023 – Dec 2023

- Promoted to Senior Supervisor within two months due to **leadership and dedication**.
- Led a team of 5 front-of-house staff during evenings, acting as a **team leader** and **role model**.

Project Work

Factor Graph-based Estimation with Automated Parameter Tuning

- Developed C++ framework implementing factor graph-based estimation with g2o library, integrating bayes optimisation to fully automate process and measurement noise parameter tuning.
- Implemented statistical validation using Normalized Innovation Squared distributions for linear and non-linear motion models with 10,000+ Monte Carlo simulations.
- **Tools: C++, g2o, BayesOpt, Eigen3, HDF5, OpenMP, Factor Graphs**

Panda Arm Object Detection and Motion Planning

- Programmed a Panda arm to detect and sort objects by shape and colour using ROS1, PCL, and MoveIt.
- Developed expertise in robotics libraries and motion planning.
- **Tools: ROS1, MoveIt, PCL, C++**

ORB-SLAM 2 Mapping with COLMAP Verification

- Built a rig for iPhone to capture smooth video data for SLAM reconstruction.
- Optimised 3D reconstruction using COLMAP and compared results with ORB-SLAM2 using EVO.
- **Tools: COLMAP, Python, ORB-SLAM2, Fixed Focal Camera**

Interactive Stability Training Game for Elderly Fall Prevention

- Created an Unreal Engine 4 game using Xbox Kinect to map player movements to in-game character.

- Conducted accuracy testing with Vicon motion capture system.
- **Tools: Unreal Engine 4, Xbox Kinect, Vicon Motion Capture, C++**

Four-Wheeled Robot with Accurate Position Control in Simulation
- Used PyBullet, Pinocchio, and PinWrapper to control robot using EKF and MPC.
- Optimised control parameters using SciKit Learn.
- **Tools: Python, PyBullet, Numpy, SciKit Learn, EKF, Adaptive MPC**

Raspberry Pi Retro Gaming Console
- Built retro gaming console using Raspberry Pi and modified RetroPie OS, constructed custom case.
- Enhanced Linux proficiency through manual system configuration.
- **Tools: Raspberry Pi, RetroPie OS, Circuit Design, Python, Linux Command Line**

TurtleBot Navigation and Picture Recognition
- Programmed TurtleBot with ROS1 for maze navigation, coloured door identification, and Cluedo character recognition using OpenCV.
- **Tools: ROS1, OpenCV, Python, Position Localization and Estimation**

Education

University College London, MSc Robotics and AI — Sept 2024 – Sept 2025
- Grade: TBD (on track for distinction)
- Dissertation: Automatic Tuning for Factor Graph Based Estimation using Bayesian Optimisation
- Relevant Modules: Introduction to Machine Learning, Robot Sensing, Manipulation and Interaction, SLAM, Computer Vision
- Covered: Estimation and Control, Classification, Regression, CNNs, Point Clouds

Deeplearning.ai | Stanford Online, Machine Learning Specialization — April 2024 – June 2024
- Completed 6 modules, 10 hrs/week. Introduction to Supervised, Unsupervised, Classification, Reinforcement Learning and more.

University of Leeds, BEng Robotics and Mechatronics — Sept 2020 – June 2023
- Grade: Upper Second Class
- Dissertation: Innovative Approaches to Balance Rehabilitation
- Relevant Modules: Machine Learning, Intelligent Systems and Robotics, Engineering Mathematics
- Covered: Basic machine learning and image recognition, STM32 and Arduino

Positions of Responsibility

Equality Diversity and Inclusivity Representative, University of Leeds — Sept 2023 – June 2024
- Represented the electrical engineering cohort as Equality, Diversity and Inclusivity officer.

Interests

- Cooking – passionate about experimenting with recipes; run a dedicated Instagram account.
- DIY & Woodworking – design and build functional projects, enhancing practical problem-solving.
- 3D Printing – model and fabricate custom parts for home improvements and personal projects.
- Fitness – committed to regular strength training around 5 days per week.

References

Available upon request.