James Tidbury

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EDUCATION

University of Southampton   Southampton, UK
MEng Computer Science with Artificial Intelligence - Average Grade: 86% (First Class Honours)   Oct. 2021 – May 2025
Research Focus - Using Multi-Agent Deep Reinforcement Learning to Control Self-Driving Vehicles

EXPERIENCE

Vanguard Asset Management   July 2024 – Present
Software Engineering Intern   *London, UK*
- Reduced AWS costs by ∼**27%** and improved application throughput by developing a DynamoDB replacement for the existing S3 solution
- Enhanced team efficiency by creating a Python library for exposure calculations, enabling 40 team members to perform faster analyses
- Conducted performance testing of the REST API and wrote the generic testing script for the backend team
- **Leveraged** knowledge in Java, Python, AWS, Git

AccelerComm Ltd   July 2023 – Sept 2023
C/C++ Summer Intern   *Southampton, UK*
- Reduced memory consumption of the uplink module by ∼**75%** by refactoring and optimising C/C++ code
- Improved 5G modem uplink throughput by ∼**23%** by simplifying and optimising overly complex logic
- Increased testing efficiency by implementing an automated GTest solution for the affected module
- **Leveraged** knowledge in C, C++, Git, Jenkins, GCC

PROJECTS

Betting Exchanges Arbitrage Bot | *Python, Selenium, Docker, AWS*   May 2024 – Present
- Identified and executed arbitrage opportunities by developing a Selenium-based Python web crawler
- Enabled automatic execution of arbitrage strategies by containerising the web crawler with Docker and deploying it to AWS Lambda
- Reduced operational costs by 88% by optimising and redeploying the bot to a Raspberry Pi
- Decreased execution time by 30% and increased opportunity capture by implementing multi-threading

Techademia | *VueJS, Javascript, Python, Azure, Git, OpenAPI*   May 2023 – November 2023
- Built a full stack web application using Firebase and Azure to host an education resource management website
- Implemented interfaces using VueJS and developed RESTful APIs in Python, to support content management and secure data transactions
- Implemented continuous delivery using Github to build the application upon a new release
- Collaborated with schools and individuals to suggest features and get resources uploaded to the platform

Distributed File System | *Java, Maven*   February 2023 – June 2023
- Eliminated reliance on OneDrive by building a robust server and client code for a Dropbox-like distributed file system.
- Applied object-oriented programming techniques to improve system architecture and enhance programming experience
- Managed concurrent requests efficiently by implementing multi-threading

TECHNICAL SKILLS

Languages: Java, C, C++, Python, JavaScript, HTML/CSS
Technologies/Frameworks: VueJS, Node.js, JUnit, FastAPI, Git, Linux, Tensorflow, Pytorch, Pandas, NumPy

AWARDS

Winton Capital Management Prize: Awarded for highest grade in University Cohort for Year 1
BAE Systems Applied Intelligence Prize: Awarded for highest grade in University Cohort for Year 2
IET Diamond Jubilee Scholarship: Awarded for achieving high A Levels and having a passion for software engineering