London, UK
luke@lukezsmith.com
07470411333

Luke Zach Smith

linkedin.com/in/lukezsmith
github.com/lukezsmith

Experience

Software Engineer **Raytheon Technologies** (Harlow, UK) **Nov 2022 -- Present**

- Proven real-time C embedded software development and problem-solving skills through design and development of Raytheon's safety-critical MSSR radar system portfolio which serves ⅔ of global air traffic.
- Drove the successful delivery of large contract milestones by establishing major customer-facing roles in multiple major customer reviews (software requirement review, preliminary design review), demonstrating strong communication of product design and architecture to the FAA, DOD and other Raytheon customers.
- Conducted software engineer tasks throughout the entire system design lifecycle, consisting of design and development, software testing and reporting, verification and validation.
- Produced software technical specifications, interface control documents and software design documents for various components of safety-critical MSSR systems.
- Worked in an AGILE engineering lifecycle and ensured continuous communication with the software and systems engineers to integrate new functionalities and requirements into the system successfully.
- Improved cross-functional collaboration and reduced software delivery and testing times by leading a software development environment upgrade for the Condor MK3 system which reduced software build times by 50%.
- Supported planning and large contract bids through technical input to project schedules by estimating tasks and adhering to agreed estimates/timescales.

Software Engineer **LZS Software** (London, UK, Part-Time) **Jul 2020 -- Jan 2022**

- Software Engineer for multiple full-stack development contracts while studying for my 2:1 BSc Computer Science degree.
- Devised novel solutions to client problems by identifying and incorporating multiple APIs (AWS, LinkedIn, Stripe) into modern, responsive Django, React web applications, improving user count and revenue numbers:
  - Built a custom Django-backed social media scheduling platform with Amazon Web Services (AWS) S3 bucket storage integration. The platform improved client brand awareness and productivity.
  - Developed a monetised JavaScript Chrome extension that interfaces with Amazon.com to facilitate product market research for clients. The extension increased revenue for ViewTest by amassing 1000+ users.
  - Engineered a custom React survey platform that integrates with a third-party survey respondent marketplace to provide ViewTest clients with paid market insights and enhanced ViewTest's revenue model.
  - Integrated Shimmercat's compression engine into a JavaScript Chrome extension demonstrating image compression quality and generating compression statistics, improving new partnership agreement conversion.
- Demonstrated strong leadership and communication skills by devising solutions for clients and meeting deadlines as evidenced by a large number of satisfied clients who have provided positive feedback for me.

Software Engineer Intern **FDM** (London, UK) **Jan 2018 -- Oct 2018**

- Spearheaded the end-to-end creation of an advanced, multi-platform digital hiring system, overhauling the entire recruitment process
- Prototyped and developed a dynamic hiring dashboard application using ASP.NET, setting the foundation for enhanced hiring operations.
- Collaborated closely with crucial HR stakeholders, conducting comprehensive analyses to identify and address bottlenecks within the prevailing hiring systems.

Education

- **B.Sc. Computer Science (2:1),** Durham University.   **2019** -- **2022**

Relevant Courses: Algorithms and Data Structures, Networks and Systems, Artificial Intelligence

Projects

STM32 FreeRTOS Command Line Interface Project [Github Link](#)

- Developed a FreeRTOS program written in C for STM32 microcontrollers. The program runs several GPIO tasks and logs accelerometer data through a UART command line interface. Utilises GoogleTest for unit testing.

Co-operative Multi-agent Reinforcement Learning in Partially Observable Card Games [Github Link](#)

- Developed Python/Pytorch deep reinforcement learning solutions comparable with state-of-the-art academic literature.

Aether High Altitude Balloon Project [Github Link](#)

- Contributed C++ payload system code involving RF transmission through interrupt-driven frequency modulation techniques for a high-altitude balloon project.

YawPy [Github Link](#)

- Built a 3D graphics engine with Python, NumPy and Pandas. The engine provides real-time model output based on IMU data and a complementary filter that fuses gyroscope, accelerometer and magnetometer readings.

Alertbnb https://alertbnb.com

- Developed a full-stack authenticated Django and React web application that incorporates Stripe payments, Celery scheduled tasks and Scrapy to create a custom Airbnb alert suite with paying users.

Skills

- **Languages**:   C, C++, Python, Bash, JavaScript, HTML, CSS, Java
- **RTOS & Frameworks**: TI-RTOS, FreeRTOS, Django, Node.js, React, Flask
- **Technologies**: AWS (S3, Lambda Functions, CloudFront and Route53), SQL, Git, SVN, PyTorch, Docker, MongoDB

Awards

- Zero-Knowledge University 2022 Cohort Scholarship.
- Finalist of DurHack 2019 with WalkingBuddy, an Android app for scheduling group walks for enhanced city safety.

Interests

Endurance Sports

- In 2023, I completed a ~400km cycle from Hertfordshire to Paris in 2.5 days.
- In 2024 I plan to run my first Marathon and improve my Half Marathon personal best.

Writing and Reading

- In my spare time, I enjoy writing about research papers or books I've read, or software side projects that I've developed on my [technical blog](#).
- I read a lot of nonfiction, classic literature and sci-fi.

Languages

- I enjoy learning new languages and have been studying Japanese for several months now, I plan to take the JPLT N3 certification exam this year. Additionally, I have intermediate Spanish skills.