KIERAN LOCK

Brighton / Bath | +44 7484 171168 | kieran.lock@outlook.com | LinkedIn | Portfolio

Detail-oriented software engineer with industry experience from Darktrace and expertise in Python and TypeScript. Currently a 2nd year Computer Science student at the University of Bath. Collaborative and results-driven problem-solver committed to solving complex challenges with high-quality solutions.

WORK EXPERIENCE

Software Engineer | Darktrace | Full-Time, Hybrid   November 2023 – September 2024

As part of the backend team behind Darktrace's cloud security product, I contributed to critical components of their AWS and Azure integrations. I acted as a bridge between interdependent teams to facilitate communication, and, leveraging my full-stack proficiency, was entrusted with developing internal frontend prototypes to accelerate feature rollout.

My work involved building a new, extensible microservice to integrate AWS services including Access Analyzer, Macie, and Inspector. I also engineered support for complex attack path visualization by programmatically generating efficient graph queries from known threat models, and architected custom, explainable algorithms for "Access" and "Exposure" risk scoring.

Project Lead | Racing League Tools | Part-Time, Remote   December 2022 – October 2023

I designed and implemented a new website for a small SaaS startup with C#, through which product downloads and community participation were driven. As the web project lead, I was responsible for programming the UI, and determining a suitable stack that suited the team and could integrate with the other services already provided by Racing League Tools.

Team Leader | Pied Piper LTD | Full-Time, On-Site   June 2023 – August 2023

I worked for a children's holiday activities company, as a team leader at one of their local sites. We planned, organized, and delivered activities for large groups of children aged 5 – 12 years in pairs, which improved my ability to lead, collaborate effectively, and manage projects, which have proven to be highly transferrable skills in software engineering.

Assistant Studio Technician | Omni Digital Technologies LTD | Traineeship, Remote   June 2021 – August 2021

I enrolled on a traineeship with an indie game-development company, where I learned and applied key skills from industry professionals, including proficiency with Unity, Unreal, and Blender, and experience with processes such as acceptance testing and pair programming. The traineeship amounted to a final project, where I built a complete game with Unity.

Swimming Teacher | Brighton Dolphin Swimming Club | Volunteering, On-Site   January 2021 – July 2023

I volunteered weekly as a swimming teacher, planning and delivering lessons for ages 8 – 17 and adult masters. Achieving my SEQ Level 1 qualification provided foundational techniques and strengthened my communication and leadership skills, requiring me to adapt explanations to varying levels, manage group dynamics, and maintain lesson engagement.

EDUCATION

BSc (Hons) Computer Science (With Placement) | University of Bath
September 2024 – June 2028

1st Year: First-Class Honours (75.83%)

Programming I: 93% (Functional Programming, Haskell)
Programming II: 74% (OOP, Java, Agile Methodologies)
Artificial Intelligence: 75% (Searches, Machine Learning)
Computer Systems and Architectures: 75% (Hardware, OSs)
Mathematics for Computation: 70% (Matrices, Vectors, Calculus)
Discrete Mathematics and Databases: 68% (Sets, Relations, SQL)

A-Levels, EPQ, and GCSEs | Brighton College
September 2021 – June 2023

Computer Science: A*
Further Mathematics: A
Mathematics: A*
Physics: A (With Engineering Physics)

EPQ: A* (Augmented Reality Dissertation)

11 GCSEs: Nine 9s, an 8, and a 7

PROJECTS

ScanDocs | https://github.com/kieran-lock/ScanDocs   July 2023 – August 2023

I published a Python library capable of creating comprehensive documentation for Python projects of any complexity. ScanDocs uses Python's dynamic nature to efficiently index a Python package, and build a fully featured static documentation website, complete with customizable themes and content, and complex fuzzy-searching functionality.

RaceLink | https://racelink.vercel.app   February 2024 – Present

I am building a user-facing product for sim-racing enthusiasts, which facilitates racing league administration. The project focuses on enterprise-grade engineering practices I learned during my tenure at Darktrace, including a microservices architecture, database migrations, and API rate limiting. It uses a containerized deployment strategy with secure secrets management so that it remains cloud-agnostic and can be scaled using container orchestration tools such as Kubernetes.

ShellScape | https://github.com/kieran-lock/ShellScape   July 2022 – Present

ShellScape is a terminal-based rendering and physics engine inspired by projects such as React and Unity. It allows you to create reusable components with event handlers, which can opt in to customizable behaviours including configurable physics, collision detection, and mouse-dragging. It is an evolution of a GUI-framework I have previously published.

LiteScribe | https://github.com/kieran-lock/LiteScribe   January 2023 – October 2023

I created and now maintain SQLiteFrame, a lightweight Python ORM for SQLite which uses advanced Python techniques to provide the most simple and intuitive API possible. Developers can connect to local databases, build, and execute complex CRUD queries, and build schemas from existing databases for easy ORM migration. It uses ScanDocs for its documentation.

SKILLS & INTERESTS

Backend Frameworks	Frontend Frameworks	Language Proficiencies		Sports	
FastAPI	React (+ NextJS / Remix)	Python	(Expert)	Volleyball	(Bath Development Team)
Flask	Svelte (+ SvelteKit)	TypeScript	(Fluent)	Swimming	(SEQ-Qualified Teacher)
ASP.NET Core (MVC)	Astro	C#	(Intermediate)	Scuba	(PADI Advanced OW)
		Haskell	(Intermediate)	Running	(Training for Marathon)

Databases	Development Tools	Cloud Platforms		Interests & Skills	
PostgreSQL	Git (+ GitHub / GitLab)	AWS	(Fluent)	Travelling	(SE Asia, Europe, Canada)
SQLite	PIP / Poetry / UV	Azure	(Intermediate)	Piano + Guitar	(ABRSM Grade 5 Theory)
Redis	[P]NPM / Vite / Bun	GCP	(Intermediate)	Driving	(Full License)
Apache TinkerPop	Docker (+ Compose, K8s)				

REFERENCES

Dr Bhagyashree Patil | University of Bath (Academic Advisor)   **Connor Trimble | Darktrace (Director of Engineering)**
bp397@bath.ac.uk | +44 1225 386996   Reference available upon request.