Sami Hatoum

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Summary Statement — Methodical software engineer, committed to rigorous testing and thorough documentation, ensuring robust system reliability and seamless team collaboration

Skills

Languages	Java, JS, Python, C, C++, SQL	**DevOps**	AWS, Docker, Kubernetes, Git, Atlassian
Frameworks	Flask, React, Next.js, Node.js	**Modelling**	UML, ER, DOM, FSM, Flowcharts
AI Libraries	Scikit-learn, TensorFlow, PyTorch	**Testing**	Pytest, JUnit, Jest, Gremlins

Experience

PricewaterhouseCoopers (PwC) — **Aug 2024**
Client-Side Consulting Intern
- Collaborated full-time on-site of a client as part of an Agile team, evaluating business operations to identify 120 risks of varying severity and uncover £20,000 in annual cost-saving opportunities
- Conducted comprehensive market and financial analysis to support the development of a new air cargo facility
- Spearheaded the conceptual design of the facility, integrating advanced technologies, sustainability measures, and efficiency strategies to achieve an 18% reduction in operational costs
- Oversaw the implementation of a £5 million project, managing timelines, resource allocation, and ensuring business continuity during the transition

PricewaterhouseCoopers (PwC) — **Jun 2023 – Jul 2023**
Digital Consulting Intern (AI)
- Designed and refined a neural-network–based sentiment analysis pipeline using TensorFlow, leveraging tokenization methods (e.g., WordPiece) and hyper-parameter tuning to optimise model accuracy in collaboration with senior ML engineers
- Implemented and maintained end-to-end workflow pipelines in DataIku, including automated data ingestion from diverse sources, sophisticated feature engineering (n-gram generation), and multi-step pre-processing
- Deployed the trained model into a containerised infrastructure (Docker + Kubernetes) for real-time inference on unstructured, high-volume data streams
- Carried out training, validation, testing cycles, and ongoing model monitoring for production reliability

Education

University of St Andrews
Bachelor of Science in Computer Science - Predicted Grade (First)

British International School of Riyadh
A Levels - Computer Science (A), Mathematics (A), Physics (A), Economics (A)

Projects

Food Waste Management App — **Jun 2024 - Present**
- Developing a food waste management web-app for grocery tracking and reducing waste (React, Flask, PostgreSQL)
- Integrating AI-driven image recognition for grocery input via photos (TensorFlow, OpenCV)
- Implementing personalised recipe suggestions based on inventory (Suggestic REST API)
- Adding food preservation tips to promote sustainability
- Notifying users when their groceries are close to expiry
- Focusing on clear UX/UI to better address environmental and consumer needs (Figma)

PCG Dissertation Research Project — **Sep 2024 - Present**
- A procedural content generation tool for a PSPACE decision problem – Sokoban. This combines pseudo-random generation, entity-mapping constraints, and a Two-Archive evolutionary algorithm to balance minimalism and diversity. The tool produces diverse, playable puzzles of varying difficulty, validated by solvers (Java)

Cryptographically Secure File Server — **Nov 2024**
- A zero-knowledge, zero-trust file server. This server has no access to unencrypted data, file-keys, or filenames, with multi-layer encryption and granular access control. Built both client and server components, focusing on secure data handling, key exchange, and minimal UX/UI (Java)

Machine Learning Automated Algorithm Selection — **Nov 2023**
- An automated algorithm selection tool using MAXSAT12-PMS data, predicting the most effective solver per instance. Compared models against SBS/VBS baselines, applying classification/regression, feature normalisation, and hyper-parameter tuning to improve accuracy (Python, Scikit-learn)