Sami Hatoum

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Skills

Languages: Java, JavaScript, Python, C, C++, C#, SQL
Frontend & Design: React & Next.js, React Native, Figma, Tableau
Backend & Databases: Node.js, Flask, FastAPI, PostgreSQL, MongoDB, Postman
AI & Data Science: NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, OpenCV
DevOps & Cloud: AWS, Docker, Kubernetes, Git & GitHub, Dataiku, Jira

Experience

PricewaterhouseCoopers (PwC) **Aug 2024 – Sep 2024**
Client-Side Consulting Intern
- Worked on-site in an Agile team, identifying 120 business risks and uncovering £20,000 in annual savings
- 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 plan of the 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 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 & Certifications

University of St Andrews *BSc Computer Science — First Class Honours, Dean's List*
British International School of Riyadh *A Levels — Computer Science (A), Mathematics (A), Physics (A), Economics (A)*

Certifications
- AWS Certified Cloud Practitioner, Amazon Web Services *Jul 2023*
- All Certifications Completed, Dataiku Academy *Jun 2023*

Projects

Food Waste Management App **Sep 2024 – Present**
- Architected a cross-platform mobile application in React Native to track & manage user groceries
- Designed and deployed RESTful services on AWS Lambda & API Gateway, with PostgreSQL on Amazon RDS, automated backups and auto-scaling policies
- Implemented TensorFlow + OpenCV pipelines for on-device image classification of grocery items
- Developed a recipe-suggestion microservice consuming the Suggestic REST API calls, parsing JSON payloads and caching responses in Amazon ElastiCache to ensure sub-200 ms response times
- Configured AWS EventBridge and SNS to schedule and send push notifications for impending expiry of produce, reducing user waste through proactive alerts
- Engineered UI/UX prototypes in Figma and realised them in React Native, employing Redux for state management and achieving 90+ Lighthouse accessibility and performance scores

PCG Dissertation Research Project **Sep 2024 - May 2025**
- A procedural content generation tool written in Java for a PSPACE decision problem – Sokoban
- Combines pseudo-random generation, entity-mapping constraints, and a Two-Archive evolutionary algorithm to balance challenge and diversity. The tool produces unique, playable puzzles of varying difficulty, validated by solvers

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 client/server with secure data handling, key exchange, and minimal UI. Deployed on AWS with PostgreSQL

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