

# 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  
**Frameworks** Flask, React, NextJS, NodeJS  
**AI Libraries** Scikit-learn, TensorFlow, PyTorch

**Modelling** UML, ER, DOM, FSM, Flowcharts  
**DevOps** Docker, AWS, Git, Jira, Trello  
**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)*

- Collaborated on an NLP system for sentiment analysis with senior team members (TensorFlow)
- Integrated the model into the client's data infrastructure for real-time insights from unstructured data
- Managed end-to-end processes, including data pipelines, pre-processing, and feature extraction (Dataiku)
- Oversaw training, validation, testing cycles, and ongoing model monitoring for production reliability

## Education

### University of St Andrews

*Bachelor of Science in Computer Science - Predicated 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, Node.js, 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 Research Project

Sep 2024 – Present

- A procedural level generation tool for Sokoban, combining pseudo-random generation, bijective entity-mapping, 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)