

ADRIAN AMILIAN GUTU

Graduate Software Engineer | Python | TypeScript | Backend | Full-Stack | Data & AI

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British Citizen - Full UK Right to Work | Full UK Driving Licence | English & Romanian

PROFESSIONAL PROFILE

First Class BSc Computer Science graduate from the University of East Anglia with hands-on experience building full-stack applications, Python tools, REST APIs, AI/ML systems and algorithm visualisation software. Strong across Python, TypeScript, JavaScript, backend development, databases, testing and data analysis. Brings additional commercial and operational experience through self-employed Google Ads/content work, tutoring and manufacturing, with proven communication, quality control, SOP compliance, leadership and responsibility.

TECHNICAL SKILLS

Programming: Python, Java, C/C++, JavaScript, TypeScript, SQL, HTML/CSS, Dart, C#

Backend & APIs: Flask, Node.js, Express, REST APIs, JWT authentication, bcrypt, API integration

Frontend & Mobile: Vue 3, React, Vite, Flutter, responsive UI development

Databases: MongoDB, Mongoose, SQLite, PostgreSQL, relational database design

AI, Data & NLP: pandas, NumPy, scikit-learn, Random Forest, spaCy, NLTK, TF-IDF, TensorFlow.js

Testing & Tools: Git, GitHub, Docker Compose, pytest/unittest, Vitest, Jest, Supertest, Pygame, matplotlib

Methods: Agile, Kanban, requirements gathering, technical documentation, debugging, algorithm analysis, agentic coding

PROFESSIONAL EXPERIENCE

Machine Assistant | Polarseal, Suffolk *July 2026 - September 2026*

- Support the day-to-day operation of production machinery, working closely with machine operators to maintain consistent production flow and minimise avoidable disruption.
- Monitor product output and carry out quality checks, identifying defects or inconsistencies and helping ensure products meet required specifications.
- Follow Standard Operating Procedures (SOPs), health and safety requirements, and established production and quality processes.
- Locate, prepare and supply correct production materials so operators can maintain an efficient workflow.
- Trained on the site's tablet-based production system for accessing and recording manufacturing information.
- Train and support new workers in locating materials, completing tasks correctly and following established working procedures.
- Maintain a safe, organised work area and escalate machine or production issues to the machine operator when required.

Google Ads / Blog Writing & IT Services | Self-employed *Sept 2024 - Present*

- Research, write and manage Google Ads and blog content for clients, converting broad or unclear business goals into clear, client-ready deliverables.
- Manage client consultations, revisions, deadlines and quality checks independently, strengthening stakeholder communication and ownership.
- Provide light IT and workflow support including website/content issues, account-access questions, file organisation and common Microsoft 365 / Google Workspace-style tools.
- Explain digital and technical issues clearly to non-technical clients and adapt work based on feedback and business needs.

Computer Science Tutor | Freelance *2024 - 2025*

- Planned and delivered weekly GCSE Computer Science tutoring sessions, simplifying programming, algorithms and theory into structured explanations.
- Adapted materials to the learner's pace and provided personalised feedback to improve comprehension, confidence and problem-solving ability.

PPC Broadband | Work Experience *June 2022*

- Supported operatives and engineers on production lines while observing maintenance workflows, changeover meetings, teamwork, quality checks and sample-testing procedures.
- Developed early experience communicating with technical staff and understanding disciplined production and engineering processes.

EDUCATION

BSc (Hons) Computer Science - First Class Honours | University of East Anglia (UEA) *2023 - 2026*

- Relevant areas: software engineering, artificial intelligence, machine learning, data structures and algorithms, information retrieval, databases, operating systems and full-stack development.
- Co-led a six-person full-stack software engineering project that achieved a 93% assignment grade.

A Levels | *2021 - 2023*

Mathematics | Further Mathematics | Computer Science

GCSEs | *2016 - 2021*

9 GCSEs including Grade 9 Mathematics and Grade 6 English Language & Literature, with Distinction in Speaking.

SELECTED TECHNICAL PROJECTS

National Rail Journey Planner & AI Chatbot | Python, Flask, NLP, APIs, Machine Learning

- Developed a Flask-based chatbot and journey-planning system integrating live rail data, natural-language intent handling and journey/ticket functionality.

- Implemented modular routing, entity extraction and knowledge-base responses, alongside delay-prediction functionality using historical data and machine-learning evaluation.
- Supported project quality through an automated test suite of more than 280 tests covering chatbot logic, routing, services and API behaviour.

Personal Portfolio Website | Next.js, TypeScript, React, Vitest, GitHub Actions, Cloudflare Pages *Shipped Product*

- Designed, built, tested and shipped a public portfolio under my own name, showcasing software projects, interests and CV content through a responsive, accessible interface.
- Used agentic coding as a development tool for implementation, review and refactoring while retaining ownership of architecture, requirements, testing and final code decisions.

Health Tracking Web Application | Vue 3, TypeScript, Node.js, Express, MongoDB *93%*

- Built a full-stack application with food and exercise logging, calorie calculations, user authentication and database-backed records.
- Implemented REST endpoints, MongoDB schemas, frontend pages and reusable workflows while co-leading a six-person team using Agile and Kanban.
- Reallocated tasks around team strengths, resolved blockers and maintained clear communication to help the team achieve a 93% assignment grade.

Knight's Tour Educational Algorithm Visualiser | Python, Pygame, Algorithms *Final Year Project*

- Engineered an interactive educational visualiser comparing heuristic search, backtracking and a custom divide-and-conquer approach to the Knight's Tour.
- Implemented run, pause, step and instant modes, configurable board sizes, blocked squares, algorithm switching and explanation features.
- Generated CSV performance metrics and graphs to compare runtime, route behaviour, onward degree and decision time.

Information Retrieval Search Engine | Python, TF-IDF, spaCy, NLP

- Built an information retrieval system using TF-IDF, cosine similarity, metadata filtering and named-entity recognition.
- Evaluated retrieval quality using Precision@10 across multiple queries and compared baseline and NLP-enhanced approaches.

AI Strategy Game | Python, Pygame, Search & Adversarial AI

- Implemented BFS, DFS, IDDFS and A* pathfinding alongside minimax and alpha-beta pruning, supporting Player vs AI and AI vs AI modes.

Additional Projects | Unity, TensorFlow.js, C/C++

- Built a Unity turn-based roguelike with enemy AI, combat, room progression and UI systems; developed a TensorFlow.js object-detection demo; and completed C/C++ and operating-systems coursework projects.

LEADERSHIP & COMMUNITY

Dungeon Master | Community Tabletop Roleplaying Group, Norwich *2023 - Present*

- Organise and lead regular group sessions, coordinate schedules, explain rules clearly, resolve conflicts and maintain participant engagement.
- Use collaborative storytelling and group facilitation to promote teamwork, communication and an inclusive environment.

ADDITIONAL STRENGTHS

Leadership & mentoring: co-lead on a 93% university project, freelance tutor, and trainer of new production colleagues. Commercial awareness: client-facing Google Ads and content work. Process discipline: experience following SOPs, checking quality, meeting deadlines and escalating issues appropriately.