RONALD **OSSAI**

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Summary – Software Developer with strong background in data analysis, cloud infrastructure, and backend engineering. Hands-on experience in backend systems, scripting, and API integrations. Completed a 12-month industrial placement at Allianz contributing to Python-based development and DevOps workflows. 2+ years professional experience combining software development and data analytics. Hands-on with Python, SQL, Power BI, and AWS. Experienced in building analytics tools, CI/CD pipelines, and scalable cloud applications. Former Allianz intern.

PROFESSIONAL WORK EXPERIENCE

2020 (JULY-SEPTEMBER)

INTERNSHIP-GRAFFITI FURNITURES LTD

- Learned procedural and imperative programming language to help further understand the basic functions of the CNC machine.
- Learned about the functionality of rendering software for interior architecture.
- Facilitated logistical management tasks e.g. the movement of materials from shop floor to installation venue.
- Utilization of G-Code, M-Code to calculate dimensional drilling functions.

2021-2022 (SEPTEMBER-JUNE)

STUDENT AMBASSADOR-ICAEW LTD

- Social media brand handler in the University of Sussex
- Opening STEM opportunities for Ethnic minorities on the University Campus

2022-2023 (SEPTEMBER-SEPTEMBER)

IT TRAINEE PLACEMENT YEAR-ALLIANZ

- Junior Developer Working with Solutions Architect department for Allianz 2022/2023, 1-year full-time work experience.
- Utilized Docker for containerization of applications, streamlining development, testing,
- and deployment workflows.
- Contributed to DevOps and software development initiatives using Python, JavaScript, and SQL. Supported and maintained CI/CD pipelines, enhancing deployment efficiency and reliability. Gained hands-on experience with Amazon Web Services (AWS), supporting
- cloud-based infrastructure and deployment workflows.
- Designed and maintained data dashboards and reports using Power BI and Microsoft
- Excel, supporting internal decision-making and operations analytics.

2025 (JUNE-AUGUST)
CARTOGRAPHER IO – CONTRACT WORK
- Delegate Management System | React/TypeScript Full-Stack Application
- Developed a comprehensive administrative interface for managing RCA course delegates using React 18, TypeScript and Remix. Implemented complex CRUD operations with modal-based workflows for delegate assignment, group transfers and booking integrity management. Built a responsive UI components with Tailwind CSS, integrated Drizzle ORM for database operations, and created dynamic filtering/search functionality. Solved challenging state management issues including dropdown menu controls, merge conflict resolution, and type safety implementations. Demonstrated expertise in modern React patters, API integration and maintaining data consistency across related entities.

SKILLS

Languages & Frameworks: Python (Flask, Fast API, PyQt6), SQL, HTML/CSS, JavaScript, Java, C++, C#, C, Rust (novice)
Tools & Platforms: Git, Docker, AWS (basic), Linux, CI/CD, VSCode, GitHub
Concepts: OOP, REST APIs, Software Design Patterns, Agile Methodology, Unit Testing

EDUCATION

2021-2025
COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE BSC, UNIVERISTY OF SUSSEX
Honors in Computer Science and Artificial Intelligence BSc
Key modules included are:
Natural Language Engineering
Compilers and Computer Architecture
Machine learning
Computer Vision
Neural Networks
Quantum Computing.

2017-2019
FOUNDATION, BRIDGEHOUSE COLLEGE – INCLUDING A IN IT, A IN MATHS

2017
IGCSE, DAYWATERMAN COLLEGE NG- 2A*S (INCLUDING ICT), 3A'S (INCLUDING MATHEMATICS AND PHYSICS) 3B'S (INCLUDING ENGLISH LANGUAGE, CHEMISTRY AND FURTHER MATHEMATICS)

PROJECTS

This section contains a multitude of projects I have been able to work on over the years of consistent practicing and learning.

Business Analytics Dashboard – Django, DRF, PostgreSQL, Chart.js Built a secure, web-based analytics dashboard inspired by real-world use cases at Allianz.
• Implemented user authentication (JWT), CSV data ingestion, and background ETL tasks using Celery.
• Visualized KPIs using Chart.js and enabled PDF export of reports.
• Built a RESTful API with filtering, pagination, and role-based access control.
• Containerized with Docker and deployed to production on Render.
• Tech Stack: Django, Django REST Framework, PostgreSQL, Celery, Redis, Chart.js, Docker.

Particle Life Simulator – **Python, Pygame** Simulated complex particle interactions using a 6x6 matrix of behaviour rules. Implemented parameters for position, type, and physics, with $O(n^2)$ time complexity.
Toy Quantum Circuit Editor – **Python, PyQt6, NumPy** GUI-based editor for building quantum circuits with drag-and-drop functionality and OpenQASM 2.0 output. Simulated entanglement and Bell states.

WEB 3D: CTRL + LIFE – 3D website made using threejs, bootstrap, JavaScript and React

Binary Classification Model – **Python, NumPy** Built and trained a multilayer perceptron using backpropagation for a classification task. Achieved 83.5% accuracy on standardized data using 80/20 train-test split.

Computer Vision Alignment Tool – **Python, OpenCV, NumPy**
Used HOG descriptors and grayscale normalization to align facial features. Applied linear regression for image preprocessing.

REINFORCE Learning Agent – **Python, OpenAI Gym**
Evolved neural networks via genetic algorithms to control agents in simulation environments. Used fitness maximization to guide learning.

Inventory Management System – C#, ASP.NET Core, SQL Server
Role-based CRUD app with RESTful API, Docker deployment, and admin interface.

Unity Game: 2D Arena Shooter – C#, Unity
Implemented enemy waves, power-ups, and UI with Scriptable Objects.

Web Security Platform – PHP, JavaScript, MySQL
Built an antique valuation platform with multi-factor auth, brute-force protection, and secure file uploads.

Property Tycoon Game – Java
Java-based Monopoly clone using OOP principles, Entity management, and GUI.

ACTIVITIES
My personal activities include learning mathematics/physics, music, football and game development and producing software. I play football and I am an active swimmer. I develop projects in Python as well as Java and JavaScript. I use C++/C/Rust for low level and embedded systems. I try to find creative ways to combine my interest with computing and mathematical tools.

Clubs and Societies / student roles
- Student Representative Council head (2013/2014).
- Clique sports football club (2012-2016)- Played in Defensive Roles.

- Boarding House computer Prefect (2016/2017)- Given the responsibility of the collection of personal computers and devices for grade 11 and 10 students at the end of the day.
- ICAEW Brand Ambassador

Qualifications and Awards
- Bronze Duke of Edinburgh Award
- Most Valued Player clique sports 2015 football awards
- Microsoft Packages.
- Basic Level French (conversational)
- BSc (Hons) Computer Science and Artificial Intelligence

GITHUB AND PORTFOLIO:

Projects available at: github.com/ronaldossai

Portfolio: https://ronald-ossai-portfolio.vercel.app

LinkedIn: https://www.linkedin.com/in/ronald-ossai-b66670206/