

Jacob Sowah

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PERSONAL STATEMENT

Second-year undergraduate at Aberystwyth University. Achieved High marks across all first-year modules while working part-time at Tesco. Clear communicator and reliable team member with strong problem-solving skills and initiative.

SKILLS

Python

Java

Git/GitHub

HTML/CSS/JavaScript

Arduino C

Command line

Basic SQL

WORK HISTORY

STORE COLLEAGUE, Quinton/Aberystwyth

[Tesco](#), current

- Serve customers across checkouts and self-service, handling cash and resolving issues quickly and calmly.
- Maintain shop-floor standards and restock efficiently; collaborate with a diverse team on busy shifts.
- Built strong customer service, problem-solving, and teamwork skills.

EDUCATION

BSC IN COMPUTER SCIENCE CANDIDATE

INTRO TO PROGRAMING - 1ST

Intro to Computer infrastructure - 1st

Information security 2:2

Problems and solutions 2:2

[Aberystwyth University](#), 2024 - Expected graduation August 2028

A-LEVELS IN MATHEMATICS, COMPUTER SCIENCE, PHYSICS

[King Edward VI College, Stourbridge](#) 2022 - 2024

GCSES IN ENGLISH LITERATURE - 6, ENGLISH LANGUAGE - 5, MATHEMATICS - 7,

COMBINED SCIENCE - 7/7, COMPUTER SCIENCE - 7

[Hagley Catholic High School, Worcester](#) 2017 - 2022

PROJECTS

AI Innovation Sprint Participant - Pan-Wales AI. Challenges

- Selected to participate in high-intensity 48-hour AI innovation sprints, rapidly designing and prototyping AI-driven software solutions to real-world challenges.
- Collaborated in cross-functional teams to apply modern AI tools and development workflows, translating ideas into working technical concepts under tight deadlines.

- Pitched technical solutions to industry mentors and startup experts, incorporating feedback to refine product direction, feasibility, and scalability.

Minitrus — Arduino C mini Tetris clone

- Built a hardware game loop with input debouncing and timer-driven piece drops
- Implemented line clears and scoring under tight memory constraints.
- Wrote modular C for game state, rendering, and input to keep it maintainable.
- Tech: Arduino, C, basic electronics. Code/Video

Text-based Language Learning Helper — Java CLI

- Designed spaced practice drills with progress saving, added word list import and quick stats.
- Structured with OOP to separate I/O from core logic, easy to extend with new exercise types.
- Tech: Java, file I/O

Patience (Solitaire) — OOP showcase

- Modelled cards, piles, and moves with clear classes/interfaces
- Enforced rules with validators and unit test
- Implemented undo/redo using a command pattern to improve testability
- Tech: Java (OOP, design patterns), Junit testing

Portfolio Website

- Responsive single-page portfolio with project cards and keyboard-friendly navigation
- CI/CD deploy so pushes to main auto-publish
- Tech: HML, CSS, JavaScript, CI/CD

D&D Sheet → Roles — Discord Bot

- Give the bot your D&D character sheet and it auto-assigns server roles for Race, Class, Subclass, and Level
- Slash commands: /register to link a sheet, /roles preview to see pending roles, /sync to re-read updates, /unlink to remove
- Validates permissions and avoids role conflicts/hierarchy issues.
- Supports D&D Beyond JSON export (primary) and simple CSV forms
- Mappings kept in a YAML file so mods can customize which sheet fields map to which roles.
- Tech: Python, discord.py (slash commands), SQLite, YAML configs

Light/Lock Checker — Raspberry Pi (in development)

- Detects locked vs. unlocked using a bolt-mounted microswitch or reed sensor, debounced GPIO with internal pull-ups, and Discord webhook alerts (with cooldown + optional heartbeat/LED).
- Python service with gpiozero + requests, runs at boot via systemd, env-based secrets, simple logging, and modular structure for future extras (offline queue, status page).
- Tech: Raspberry Pi, Python, gpiozero, requests, basic electronics, systemd, Discord Webhooks.

<http://jacobsowah.me>

