Jonathan Rudman

jonathan.rudman@live.co.uk https://jnthn.me

EMPLOYMENT

PricewaterhouseCoopers

Software Engineer (Associate – Senior Associate) Sept. 2022 – Aug. 2023, London/Birmingham

- Leading a successful initiative to rewrite our previously Flask-based frontend in React, including modifying all existing endpoints and authentication flows to be compatible.
- Shipping single-instance multi-tenancy for our web app to speed up client onboarding, working with PostgreSQL.
- Improving developer onboarding and setup processes for our web application by simplifying our configuration, unifying secrets under Google Secret Manager and adding setup scripts.

Software Engineer (Degree Apprenticeship, Year in Industry) Sept. 2020 – Aug. 2021, Birmingham

- Writing data migration software in Python to extract all engagement data from PwC's old system of record (Lotus Notes) over COM to CSV files which could be imported into the new system, AODocs.
- Interviewing applicants to work on the codebase and run live data migrations using our software.

Consultant (Degree Apprenticeship, 1st Placement) June 2019 – Aug. 2019, London

- Assisting our client's business transformation, migrating from their parent company's logistics SAP system to their own, in-person in Rotterdam and Katowice.
- Facilitating change management sessions involving the client and other consultancies.

PROJECTS

🔗 **WebRTC Chat App (TypeScript, React) (2023):** writing a peer-to-peer, stateless chat app built using WebRTC and deployed to micro-VMs on fly.io.

🔗 **Security analysis of nRF52 and CC254x chips (C, Microcontrollers, Hardware Security) (2021-2022):** for my final year project, replicating stacksmashing and LimitedResults' work to bypass an nRF52832's code readout protection using a crowbar voltage glitch, and attempting the same on a CC2541.

🔗 **DOS Platformer Demo (C) (2021):** creating a platformer game demo for fun inside Turbo C in DOSBox.

🔗 **Multiplayer Tank Warfare Game (Java, OpenGL) (2020):** writing the renderer, audio engine, component system and parts of the physics engine (collisions and projectile motion) for a 2D arena-style tank warfare game during a team project module at university.

🔗 **Fact-Checking Twitter Bot (Python, Heroku) (2020):** creating a Twitter bot (@checkiftrue) for the EUVsVirus hackathon which fact-checks claims sent to it using the Google Fact Check Tool API. Now disabled by the lack of the Heroku free tier and Twitter's API changes.

🔗 **Markdown Editor (C++, Qt) (2018) :** creating a markdown editor for my A Level Computer Science coursework, teaching myself C++ and Qt in the process (Visual Basic and Python were originally taught).

EDUCATION

The University of Birmingham 2018 – 2022

BSc (Hons) Computer Science (1st, 80%)

- **Dissertation field**: Security of embedded devices, voltage glitches on microcontrollers. Specifically, crowbar voltage glitches on nRF52 and CC23xx/24xx microcontrollers.
- Degree sponsored by PwC, with summer work placements and a year in industry.
- Committee member of the Computer Science Society in first and second year, and of the Photographic Society in fourth year.

The Willink School, Reading 2018

A Levels: Computer Science (A), Physics (A), Mathematics (A)*

SKILLS

Languages and Libraries: Python, TypeScript, Java, C, React, HTML & CSS, PostgreSQL

Tools: Linux, Vim, Git, Azure DevOps & Pipelines, GitHub Actions, Google Cloud Platform, Microsoft Azure