

Curriculum vitae

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Education

- 09/2018 – 05/2021
Queen Mary University of London
BSc (Hons) in Computer Science, First Class. Thesis title: “*Optimal security hardening over a probabilistic attack graph: a case study of an industrial control system using the CySecTool*”.
The thesis has been published in ACM SaT-CPS’22 conference proceedings [here](#).
- AWS Certified Solutions Architect – Associate (valid 2022-2025, [link](#)),
Red Hat Certified System Administrator (valid 2018-2021).



Experience

- 2023-06 – 2023-12
Virgin Media O2, **GCP Python Data Engineer** (fixed-term contract)
I worked on a data migration from IBM Netezza database to Google *BiqQuery*. I was involved in data archaeology, finding the sources of data to make sure that the tables to be decommissioned are not used any more. I also designed and implemented a solution to *ETL* data from a firewalled on-prem server into *GCP Cloud Storage*, using *Python*, *JavaScript*, *WebSockets*, *Google Cloud Run* and other related GCP services.
- 2022-08 – 2023-05
Anjuna Security, **Senior Security Software Engineer** (fixed-term contract)
In this role, I built a high-level, re-usable test suite for deploying *Confidential Computing* enclaves to the cloud, increasing the trust in the company's secure computing solutions. In the role, I worked with source code of *Go* tools like *Kubernetes* and *AWS Nitro*. The role requires a wide range of skills, including *Python* testing (*pytest* and *unittest*), and DevOps tools like *Kubernetes*, *Terraform*, *Docker*, and developing *Jenkins* pipelines.
- 2022-05 – 2022-08
CirrusHQ, **Python AWS Developer** (fixed-term contract)
I have been developing a serverless backend for an exam provider using *DynamoDB*, *Lambda*, *Terraform*, *Docker* and *API Gateway*. As a part of the project, I developed an authentication library for *Auth0*. The backend is designed to scale out to millions of exams and exam takers.
- 2022-01 – 2022-05
GGMR Limited, **Senior Python Developer** (fixed-term contract)
During this 5-month contract, I developed a backend of a *Django* CMS using *Wagtail* with *GraphQL* endpoints and *PostgreSQL* database. I also implemented authentication for Django with an external OpenID Connect service and migrated data over from a *WordPress* instance. I implemented a search backend using Elasticsearch so legacy and current services can be queried by the users in the same search.
- 2019-03 – 2023-04
Queen Mary University of London, **Research Assistant** and **Teaching Associate** (part-time permanent)
The research project title is “Scalable Bi-level Multi-objective **Cyber-security Optimization Over Probabilistic Attack Graphs**”. My task was to create an interactive web application, named [CySecTool](#), (using among others *Pandas*, *Bokeh*, *numpy*, *PuLP*, *Git*, *JavaScript*) to present the optimisation data and the graphs interactively. Beside knowledge in web development and GUI-s it requires knowledge in graph theory (drawing, processing, transforming graphs, devising algorithms) and cyber-security. I have also parallelised the

algorithm, leading to large improvements in the running time.

As a teaching associate, I helped developing the Security and Authentication module. In particular, I have prepared virtual machines to be attacked and defended by the students to learn Practical Security, along with related exercises and exam questions. I also gave lectures on Networking, Networks and Applications Security.

- 2021-09 – 2022-01

Karat, **Interview Engineer** (B2B)

Conducting technical interviews for Big Tech companies, using *Python, Django, Flask, JavaScript, Java*. I have developed my social and software engineering recruitment skills in the progress.

- 2019-10 – 2021-10

Founders4Schools, **Lead Software Engineer** (full-time permanent)

I have taken the ownership of the code-base running at <https://www.founders4schools.org.uk/>, dealing with the challenges stemming from the growth of the Charity. Greatly reduced charity running costs by planning and performing a migration from *Heroku* to *AWS*. Modernised the codebase first from Python 2.6 to Python 3.6 and then to Python 3.10. Performed the database normalisation and optimisation for the greatly increased number of users. I took care of Junior Developers and taught them how to contribute independently.

The codebase utilised *Django, PostgreSQL* (including *GIS, PostGIS*), *Pandas, Celery, Docker, JavaScript, NodeJS, Angular, AWS, Terraform, Git*.

- 2018-10 – 2019-07

Incopro Ltd, **Python Developer (Web Scraping)** (fixed-term contract)

Programmer for gathering data from websites using BeautifulSoup4, regular expressions, requests library.

For this job, I have developed an in-house library from the scratch to speed up the process. Thanks to that, we progressed from processing one site every three days when I joined, to processing three sites every day when the project ended. I have also developed a Firefox/Chrome extension for storing and retrieving cookies matching credentials.

- 2017-01 – 2018-10

Freelance Programmer

In that time, I worked mainly administrating Linux servers and on projects utilising *Python* and *Django* framework. Example projects: a clinic booking system, a CMS, a star map generator and more.

Achievements and projects

- The Kohei Honda Prize for Distributed Systems 2021
- First Prize in the 2019 Queen Mary University of London Programming Competition
- Scholarship by Helmholtz Center for Information Security to attend CISP Young Researcher Security Convention 2019
- *Google Code-in 2012* Grand Prize Winner for Haiku OS (one of the 20 winners in the world)

Languages and other skills

- **Polish** – native, **English** – fluent (C2-level Cambridge certificate), **Japanese** – intermediate (B1-level JLPT N3 certificate), **German** – basic (approx. A2-level)
- B, BE and AM driving licence, CEPT Novice Radio Amateur Licence