

Nathaniel Johnson

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Personal Profile

A proactive Mechanical Engineering with Robotics graduate from the University of Sussex, currently undertaking an MSc in Advanced Mechanical Engineering at City, University of London. My master's studies are strengthening my expertise in areas such as gas turbines, fluid dynamics, structural mechanics, and project management. Meanwhile, my past projects, including a geothermal energy power cycle and a ball bearing extraction press, demonstrate strong problem-solving and practical application skills. I am motivated to pursue a career in the energy sector, where I can contribute to sustainable, innovative engineering solutions.

Education

City, St George's University of London (2025 -)

MSc Advanced Mechanical Engineering

University of Sussex (2022 - 2025)

BEng Mechanical Engineering with Robotics(2:1)

- Third Year Project in: Geothermal Power, Power Cycle Design

Ark Bolingbroke Academy (2020-2022)

A level: AAB in Mathematics, Computer Science and Physics

Technical Skill and Engineering Competencies

- **Python** experience with many Python modules/frameworks, **C/C++**, **MATLAB**, **Git**
- **CAD SolidWorks**, Modelling and Simulations
- Experience with **Embedded Systems**, including Arduinos.
- Mathematical Analysis
- Strong Experience with the **Microsoft Office Suite**

Work Experience

APA Group Engineering for New Energy Job Simulation on Forage - August 2025

- Completed a job simulation involving engineering for new energy for APA Group's Project Development team.
- Used solar PV and battery storage technology concepts to develop the scope work for a Basis of Design document.
- Calculated the solar PV plant's installed capacity, capacity factor, and greenhouse emissions offset potential.
- Practised safety awareness whilst using diagnosis and resolution techniques in a hypothetical operational troubleshooting exercise.

Ajustar24 Care Ltd., Compliance Officer (2020-2023)

- Handled interactions between candidates and the organisation. During my time at the organisation, I built up excellent communication skills both with candidates and my colleagues.
- Responsible for candidates adhering to the compliance terms put in place by the organisation, as well as assigning the online training for these candidates.
- Throughout my time here, I had to be very organised and to do this, I made use of Excel sheets and Word, and currently I am proficient in these packages

Extracurricular Activities

Developed a personal website (2024-2025)

- I learnt HTML, CSS and familiarised myself with the Django framework.

- The HTML I learnt was used to design templates for my web application. Then I used my already strong Python skills to link these templates to the application.
- I had previous knowledge of databases and how to use them, but I applied that knowledge in my Django projects. Using models and forms.
- I also added sections of the website to be able to use my geothermal power cycle models, which required me to rewrite them and make them run with Django
- During my process of learning the Django framework, I also adapted to using git to perform simple version control with my project.

Developed a penetration testing application for Computer Science A-level (2021-2022)

- For this project, I designed a GUI using the Python tkinter module
- The project had three main sections: Reconnaissance, Scanning and Exploitation.
- The reconnaissance used web Scraping and Regular expressions to find IP addresses of the target and the associated server.
- I also utilised parallel processing to complete tasks more efficiently.
- Exploitation used the Metasploit framework to exploit the vulnerabilities.
- The project also included creating my own virtual network for testing.

Special Interests

Cello at grade 5 standard

Completed Duke of Edinburgh Bronze

Completed National Citizen Service

References

Available upon request