

# Tyler Cartwright

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## SUMMARY

A motivated and innovative BSc Computer Science student at the University of Derby, on track for a 1st class honours. Brings extensive experience in software engineering, with a strong foundation in Python, data science, and full-stack web development. Demonstrated success in enhancing digital systems and developing solutions in fast-paced environments, such as Lloyds Banking Group and JP Morgan Chase & Co hackathons. Aspires to leverage technical skills in investment banking fintech, aiming to specialize in quantitative engineering.

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## EXPERIENCE

### Intern Software Engineer

#### Lloyds Banking Group

June 2022 – September 2023

- I played a pivotal role in enhancing the mortgage systems that serve both the general public and also private brokers. My contributions began with the design and development of customer journeys, in collaboration with my team, focusing on crafting and refining APIs and frameworks to support these digital experiences. My involvement extended to pioneering developments in cloud infrastructure, a critical component for the majority of the Group's mortgage applications, utilizing Microsoft Azure, Docker, Kubernetes, YAML, BASH, and JavaScript.
- A notable achievement was the completion of a solo project: the Daily Cloud Platform Diagnosis Tool. This innovative tool plays a crucial role in monitoring the health of Kubernetes Clusters, ensuring the continuous operation of the Homes Platform tools and websites. It also verifies that developers maintain access to the necessary application development, internal, and production environments without disruptions. This project not only showcases my technical acumen but also my commitment to maintaining high-performance standards and operational excellence within Lloyds Banking Group.
- Throughout the year, I dedicated myself to the Industrial Placement Support Scheme, mentoring the next cohort of placement students. My efforts in this area included guiding them through the interview process, facilitating their onboarding, and sharing insights to ensure a smooth transition into their roles at the bank.
- After finishing my placement in June 2023, I was offered the chance to extend my time with the bank due to excellent performance and a great bond with my team. I stayed until September 2023 before returning to my university studies for my final year.
- I worked to improve system efficiency and processing times, iteratively improving the cloud infrastructure throughout my year with the bank through the points detailed above.
- I monitored the error logs and quantity of healthy clusters with my Daily Cloud Platform Diagnosis Tool, detailing exactly what went wrong with the cluster and then proceeding to email my cloud engineering team, allowing us to correctly gauge response time and create bug tickets efficiently.

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## PROJECTS

### From Posts to Profits – Dissertation

University of Derby • September 2023 – February 2024

- My dissertation project is a deep dive into social media sentiment and its effects on the stock market. More specifically, I have a case study into the Gamestop short squeeze of 2021 where coordinated online movements caused huge spikes and volatility with that stock. I then aim to implement Machine Learning / LLMs to improve basic sentiment recognition systems to evaluate their effectiveness in associating online chatter with stock price increases.

### Hackathon Participant – Charity Outreach

JP Morgan Chase & Co • October 2022 – October 2022

- Over the course of 24 hours, my team and I developed a technology solution for Ignite Hubs, an emerging Non-Profit Organisation based in London. We had the opportunity to work directly with expert JPMorgan engineers, learning from their experience and creatively solving the real-world problems faced by Ignite Hubs.
- We designed, proposed, developed and presented a system that consolidates the outreach that is usually carried out manually by the volunteers at Ignite Hubs. Our solution provided a singular platform for volunteering applications, Class hosting applications for places like schools and libraries, as well as a portal to consolidate this information for the volunteers and improve the outreach and efficiency of Ignite Hubs' processes.

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## EDUCATION

### Bachelor of Science in Computer Science

University of Derby • Derby, United Kingdom • 2024 • 1st Class Honours

- Recipient of the Dean's Award for outstanding performance, ranking in the top 10% of students in the department for each completed year.

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## COURSEWORK

### Data Mining & AI

University of Derby • 2024 • Machine Learning

- I did an assignment at university in my final year which focused on data mining and machine learning techniques to learn everything I could about the Tesla Stock Movements from 2010 to 2024.
- I used Python and Jupyter Notebooks to test various modelling techniques and provide a detailed analysis and evaluation of each in terms of their accuracy and suitability when used to model short-term stock price changes.
- I carried out exploratory data analysis to learn about the stock, then tested various linear, non-linear and ML techniques before concluding how useful each is in the application.

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## SKILLS

- **Advanced proficiency in Python**
- **Experienced with Jupyter Notebooks & Data Science**
- **Full Stack Web Development (Django, React/JavaScript, PHP)**
- **Keen interest in investment banking fintech and quantitative engineering**