

# TYLER CARTWRIGHT

Data Engineer | Machine Learning Engineer | Software Engineer

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## PROFESSIONAL SUMMARY

Results-driven Software Engineer with expertise in Data Engineering, Machine Learning, and Full Stack Development. Demonstrated success in developing innovative solutions for financial crime prevention and process automation. Strong track record of solo project delivery and research in machine learning applications.

## PROFESSIONAL EXPERIENCE

### Data Engineer, Economic Crime Prevention

Lloyds Banking Group | 09/2024 - Present

- Engineer data pipelines and ETL processes using Google Cloud Platform and BigQuery for processing banking transaction data
- Develop scalable Python and Java applications for data transformation and analysis
- Collaborate with Data Scientists and Analysts to optimise data accessibility and quality
- Contribute to machine learning initiatives for fraud detection and prevention using modern ML frameworks

### Software Engineer & Project Lead

Hodsock Priory | 06/2024 - 09/2024

- Independently designed and implemented a complete staff management and accounting system using Agile methodology
- Built scalable React frontend with Node.js/Express backend and MongoDB database architecture
- Reduced administrative overhead by 70% through process automation and system optimisation
- Implemented secure authentication and role-based access control using industry best practices
- Successfully delivered project on time and within budget constraints using effective project management

### Software Engineering Intern

Lloyds Banking Group | 06/2022 - 09/2023

#### Cloud Infrastructure Engineer

- Managed critical mortgage platform infrastructure using Microsoft Azure and Kubernetes orchestration
- Implemented CI/CD pipelines for automated deployment and testing using modern DevOps practices
- Maintained high availability and performance of cloud services through infrastructure optimisation
- Collaborated with cross-functional teams to optimise infrastructure costs and efficiency

#### Full Stack Engineer

- Modernised legacy applications using React and .NET technology stack
- Developed RESTful APIs in C# for mortgage broker applications with comprehensive documentation
- Implemented responsive user interfaces following accessibility standards and best practices
- Participated in agile development cycles and code reviews using version control (Git)

## EDUCATION

### Bachelor of Science in Computer Science, First Class Honours (GPA: 4.0/4.0)

University of Derby | 2020 - 2024

- Dean's Award for Academic Excellence (2020-2024)
- Focus areas: Data Science, Machine Learning, Software Engineering

### A-Level Education

- Computer Science (A\*)
- Mathematics (A\*)
- IT & Software Development (Distinction\*)

## RESEARCH PROJECTS

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### From Posts to Profits - Social Media Impact Analysis

- Developed natural language processing system using FinBERT and MemeBERT models for sentiment analysis
- Analysed correlation between social media sentiment and stock market movements using data analytics
- Technologies: Python, Natural Language Processing, Financial Analysis, Machine Learning
- Project available at: [github.com/tyler-carty/social-media-sentiment](https://github.com/tyler-carty/social-media-sentiment)

### Healthcare ML Innovation - Pneumonia Detection

- Achieved 90% accuracy in pneumonia detection from X-ray images using deep learning
- Implemented Explainable AI (XAI) techniques for result interpretation and validation
- Technologies: Neural Networks, Computer Vision, XAI, TensorFlow
- Project available at: [github.com/tyler-carty/pneumonia-ml-xai](https://github.com/tyler-carty/pneumonia-ml-xai)

## TECHNICAL SKILLS

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### Programming Languages:

Python, Java, JavaScript, C#, TypeScript

### Web Technologies:

React, Node.js, Express.js, .NET, RESTful APIs

### Cloud & DevOps:

Google Cloud Platform, Microsoft Azure, Kubernetes, CI/CD, Infrastructure as Code

### Data & ML:

BigQuery, MongoDB, Machine Learning, Neural Networks, Computer Vision, ETL, Data Pipeline Development

## ACHIEVEMENTS

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- Successfully delivered solo full-stack project that improved business efficiency by 70%
- Achieved First Class Honours in Computer Science with consistent Dean's Awards
- Developed machine learning model with 90% accuracy for medical diagnosis
- Contributed to critical financial infrastructure serving millions of customers

## SOFT SKILLS

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Project Management, Problem Solving, Technical Leadership, Cross-functional Collaboration, Independent Working, Research & Analysis, Agile Methodology