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Michael Hills

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Software Engineer currently working at Fitch Group having graduated with a First-Class Master's Degree from the University of Exeter. Adaptable to new concepts and situations, I am looking for challenging opportunities within a commercial environment to further develop my programming, analytical and problem-solving skills.

SKILLS:

Languages: Python, Java, JavaScript
C, C++, SQL

Technologies: FastAPI, Django, Spring boot, Git, React, AngularJS, Deep Learning (Tensorflow & PyTorch), Topic Modelling, Sentiment Analysis

EDUCATION:

University of Exeter: MSci in Computer Science | *2020 – 2024*

- First Class Master's Degree in Computer Science
- 2x Dean's Commendation for Exceptional Performance (Stages 1 & 2)

Reading Blue Coat School, Berkshire | *2013 – 2020*

- A Levels: Maths (A*), Further Maths (A*), Physics (A*), Geology (A*)

EXPERIENCE:

Associate Software Engineer: Fitch Group | *September 2024 - Present*

- **BMI - Data Transformation Team:**
  - Developed a full-stack web application for country risk and industry research data using FastAPI (Python) backend, PostgreSQL database, and React frontend
  - Contributed to backend API design, frontend development, and data transformation workflows in an agile team environment
- **CDO - Enterprise Data Analytics Team**:
  - Built a web application to track user interactions, development costs, and ROI for Fitch products, integrating Qlik ETL scripts, an AngularJS frontend, and Qlik APIs
  - Developed a product recommendation system utilising BERTopic text clustering and market basket analysis to deliver personalised suggestions based on user behaviour

Vice President, Trips – Snowsports Exeter, University of Exeter [June 2022 to May 2023]

- Led the organisation of all UK and European trips for 1,500+ members, overseeing transportation, accommodation, events, schedules, and promotion
- Managed trip budgets, negotiated with external partners, and maintained regular communication with members to enhance experiences and ensure overall satisfaction

Social Secretary – Snowsports Exeter, University of Exeter [June 2021 to May 2022]

- Organised and promoted social events throughout the year, boosting member engagement and participation
- Coordinated with local venues and sponsors to deliver successful social and charity events, increasing the club's visibility and community impact

PROJECTS:

- **Deep Learning Fall Detection in Freestyle Skiing**:
  - Conducted experiments with deep learning architectures, preprocessing techniques, and data representations to classify falls in freestyle skiing, using 3D accelerometer and gyroscope data from smartphones
  - Applied two main methods: visual data analysis through CNNs (e.g., ResNet, AlexNet) and raw data analysis using LSTM and CNN-LSTM networks
- **Text Analysis of Customer Support Messages**:
  - Developed a customer support text analysis system that integrates topic modelling and sentiment analysis to enhance customer service efficiency and improve customer satisfaction
  - Implemented BERTopic and VADER to automatically cluster and label customer messages, and prioritise responses based on sentiment, enabling more effective and targeted support strategies
- **CoLab Charity Profile System :**
  - Created a website for internal use at CoLab, a charity offering wellbeing support in Exeter, to improve data management and client support, replacing spreadsheets with secure, efficient tools for profile tracking, workshops, and data analysis
  - Lead backend developer, designing secure database models, APIs, and ensuring smooth data integration to optimise system performance and usability

INTERESTS:

Machine Learning, Technology, Freestyle Skiing, Indoor Climbing