Cem Ratip

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EDUCATION

King's College London — Strand, London
BSc Computer Science (First Class 80.2%) — *Sep. 2021 – July 2024*

Trinity School of John Whitgift — Croydon, Surrey
4 A-Levels: Maths (A*), Further Maths (A*), Computer Science (A*), Economics (A) — *Sep. 2019 – July 2021*

EXPERIENCE

Software Engineering Internship — May 2023 – Sep. 2023
Expedia Group — *Angel, London*
- Worked on bug fixing for the following Expedia Group brands: Vrbo, Expedia, Hotels.com, Bookabach and Stayz.
- Had my fixes released to production and demonstrated my work to the team during standups.
- Used Java, Kotlin, Node, GraphQL and Docker and wrote unit tests with JUnit, kotlin.test and Mockito.
- Communicated with other teams for approvals, requirement elicitation and information on other microservices.

Backend Software Engineer — Aug. 2022 – Aug. 2023
Green Group Enterprise — *Remote*
- Developed a REST API to power the company's platform using TypeScript, Nest, MongoDB, AWS Lambda & S3.
- Wrote unit and e2e tests, created a database seeder and implemented authentication procedures using passportJS.
- Mentored newcomers, managed code reviews, and worked in a CI/CD environment.

Code for Good Hackathon — Oct. 2022
JPMorgan — *Bishopsgate, London*
- Collaborated in a 5-person team to create a CRM system for a tuition business within 24-hours.
- Discussed requirements with beneficiaries and developed using Flask, Bootstrap, and a MySQL database.

Web Development Internship — June 2019 – July 2019
Satalia — *Islington, London*
- Collaborated in a 3-person team to develop an informational AI website using React and deployed with Netlify.
- Gained insight into how the company coordinated teams, met client specifications and managed version control.

PROJECTS

Undergraduate Research on Trading Strategies using Machine Learning | *Python, TensorFlow* — April 2024
- Conducted a comprehensive analysis of the efficacy of technical indicators in financial market trading using Long Short-Term Memory (LSTM) models.
- Trained LSTMs on 144 unique datasets derived from the S&P 500, BTC/USD, and EUR/USD.
- Developed a trading simulator to emulate a live trading environment to measure model performance.
- Executed the program in batches on high-performance computing nodes at King's College London.
- Reached conclusions e.g. technical indicators often do not outperform pure OHLC data in shorter time frames.
- Extending my research by applying model predictions to live financial markets.

Compiler | *Scala* — Jan. 2024
- Designed and implemented a compiler from scratch, targeting LLVM-IR for the FUN programming language, incorporating type annotations and type inference.
- Generated an intermediate representation (K-IR) for type checking and translation into LLVM-IR code.
- Validated generated LLVM-IR code by executing it with the lli interpreter to ensure correctness and functionality.

Automated Cryptocurrency Trading Algorithm | *Python, AWS EC2* — Oct. 2019
- Created an algorithm to trade cryptocurrency pairs using the RSI indicator on live market data from an API.
- Executed the algorithm on an AWS EC2 instance for 14 days, yielding a 7% net profit.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, Kotlin, Scala, JavaScript, TypeScript, MySQL, NoSQL
Frameworks: Node, React, Flask, Django, Redux, Tailwind, Express, Nest, Kafka, JUnit, Mockito, TensorFlow
Developer Tools: AWS EC2/S3/RDS/Lambda, Git, Docker, Heroku, Vercel, Netlify, MongoDB, Firebase, Jira