Zahra Cheeseman

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EDUCATION

Colorado College, Colorado Springs, CO June 2025
Bachelor of Arts, ***Computer Science*** and ***Mathematics*** Double Major
GPA: 3.95
Relevant Courses: Data Structures and Algorithms, Database Management, Software Design, Theory of Computation, Linear Algebra, Number Theory, Calculus 3, Discrete Mathematics, Computer Organisation, Real Analysis I, Abstract Algebra I and II, Natural Language Processing, Optimisation and Deep Learning
Awards: Euclid Scholarship Recipient to recognise outstanding work in Mathematics, Statistics and Computer Science

TECHNICAL SKILLS

Languages: Java, Python, C, Kotlin, R, LaTeX **Tools:** PyTorch Geometric, Transformers, RX Java, git, JIRA
Databases: MySQL, SQLite, MongoDB

RELEVANT EXPERIENCE

***Software Engineering Intern,* Hammerhead/SRAM, Colorado Springs, CO** May 2024- July 2024
Machine Learning Project

- Implemented the functionality of a machine learning model to generate rider suggestions on the Karoo, an android based cycling computer, in Kotlin
- Android integration implementation included utilising RX Java- an API used for asynchronous programming- for data streaming, and AWS cloud
- Worked as part of a cross functional Agile SCRUM software development team, and participated in recurring 2-week development sprints

***Undergraduate Researcher*, Colorado College, CO** June 2023 - August 2023
Computer Science Machine Learning Research Position

- Used PyTorch Geometric to conduct graph neural network research
- Developed and implemented a model in Python evaluating the change of linear assignments between two graphs over 100 epochs
- Collaborated with a professor to refine research methodologies and presented weekly on project progress
- Evaluated literature in the field to understand contemporary practices

RELEVANT PROJECTS AND THESES

Mathematics Thesis Research November 2024- Present
Graph Theory Research Project

- Research in complexity, applications, and combinatorial aspects of a newly developed concept in graph theory
- Discovered reduction to 3-SAT to prove computational complexity

Optimisation and Deep Learning Course Project October 2024
Implementation and Analysis of Optimisation Algorithms on the Travelling Salesman Problem (completed in 1.5 weeks)

- Worked with a teammate to create a transformer enhanced ant colony optimiser, which used a neural network to generate initial parameters. Compared against original ACO algorithm and documented similar performance with decreased runtime

Software Design Course Project March 2023
Football Betting Simulator (completed in 3.5 weeks)

- Organised a team of four students to completing a football betting software which took English premier league data from a historic season, and allowed users to retrospectively bet on games and keep track of returns with in-game currency
- Implemented calculations algorithm in Java, and mySQL database. Managed team, facilitated communication, kept track of progress, goals and expectations, and undertook substantial load of writing the project documents

ADDITIONAL EXPERIENCE

Women in Sports Tech (WiST) Fellow, Remote program 2024
Women's Soccer NCAA Division 1 Player, Colorado College, CO August 2021- Present
Moroccan Women's National Team Player, Rabat, Morocco June 2021, November 2023
Fitness Center Monitor, Colorado College, CO May 2022- Present