

# Omer Gursoy

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## EDUCATION

### Carnegie Mellon University, Pittsburgh, Pennsylvania, USA

Sep 2023 – Ongoing

- Freshman student studying for Information Systems BSc
- **Courses:** Differential Integral Calculus, Principles of Computing, Reasoning with Data, Managing Decisions, Information Systems Milieux, Writing about Data, Human Intelligence & Stupidity, and Reason, Passion, & Cognition

### Marlborough College, Wiltshire, England

Sep 2019 – Jun 2023

## ACADEMIC ENRICHMENT ACTIVITIES

### University of Edinburgh: Data Ethics, AI and Responsible Innovation Online Course

Ongoing

- Examined case studies such as Cambridge Analytica and predictive policing to inspect the ethical implications of data collection and usage

### Hack112: 3-Day Hackathon

Apr 2023

- Designed and wrote a quantitative analysis algorithm in Python based on the Black-Scholes model alongside three teammates within 14 hours, aiming to model stock tickers, options and contracts by web scraping Yahoo Finance to find the optimal call price based on time until maturity
- Built an interactive interface for users so they can run the programme easily by inputting their desired stock's ticker – based on scraping data and analysis, the users are then given choices for date of maturity, stock strike and implied volatility
- Designed the output of the stock's future projection to be legible to any user through a 3D Black-Scholes model with call price, stock price and time axes and a 2D line graph with just stock and call prices as axes
- Identified weaknesses in the model and interface to fix outside of the hackathon's timeline

### Guided Inquiry: Mathematics Behind Machine Learning and AlphaZero

May 2022 – Jun 2022

- Investigated the history of the AlphaZero computer program and one of its key aspects, deep neural networks
- Evaluated the basics and types of machine-learning paradigms, drawing from Cornell and Berkley Universities' work in the field as my primary sources and explored the basics of deep learning as used by AlphaZero and other ML programs based around deep neural networks

## LEADERSHIP SKILLS

### Knowledge Exchange: Machine Learning Tech for Couture Jewellery Design Theft Detection

Sep – Oct 2022

- Identified a possible way machine learning technology can be used in the couture jewellery sector using my past apprenticeship experience and sector connections
- Collaborated with a data scientist to investigate current uses of visual search algorithms in the jewellery and larger fashion sector
- Composed an entrepreneurial proposal for how a visual search algorithm can be coded and taught with deep neural networks to detect couture jewellery design theft
- Presented the proposal to the Turkish Jewellery Exporters' Association and received appreciation for my support for the protection of artists working on this timeless art form
- Had the proposal published on the websites of both the Jewellery Exporters' Association and the Istanbul Chamber of Jewellery

## EXPERIENCE

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### **TAZI.AI: Machine Learning AI Software Developer**

Jul 2022

- Studied the pandas Python library and the way it is used in machine learning algorithms by getting hands-on beginner-level experience writing code under the supervision of experts in the field
- Assessed the communications department with the English script translations of their video content

### **Sevan Bicakci Couture Jewellery Atelier**

Two weeks per Summer between 2016 – 2020

#### **Apprentice**

- Apprenticed at the atelier for five summers, starting from menial jobs and moving up to basic administrative work and sales for the duration of my employment
- Inventoried each different piece of jewellery in different stores across Istanbul and Miami, following up with each of their manufacturing stages

## SOCIAL RESPONSIBILITY PROJECTS

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### **Volunteering Member of the YGA**

Jun 2021 – Jun 2022

- Instructed young children on how to build autonomous cars and mechanical hands with YGA's Twin Science Kits to nurture their interest in science and engineering through play
- Used recycled plastic to construct planters and a water filtration system for green gardening

### **Volunteer for the Hayata Renk Ver project SOSDES**

Jul – Aug 2021

- Visited hospitalised children due to chronic sickness; entertained them through conversation & taught emotional expression and social skills and entertained them through conversation to teach them emotional and social skills

## SKILLS, HOBBIES AND AWARDS

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- **Technical:** Python, CSS (Beginner), HTML (Beginner)  
Microsoft Office (Word, Excel, PowerPoint, Teams)
- **Language:** Turkish (Native), English (Advanced), Spanish (Beginner), Latin (Beginner)
- **Interests:** Tennis (Was tennis captain at Marlborough College)
- **Medals:** UKMT Intermediate Mathematical Challenge (Bronze - 2021)  
British Physics Olympiad Intermediate Physics Challenge (2021)