

# Daniel Öman

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## Education

### GEORGIA INSTITUTE OF TECHNOLOGY

B.S. Computer Science, concentrations in Intelligence and Theory | 4.0/4.0 GPA

2021 – 2025 (expected)

### ATLANTA INTERNATIONAL SCHOOL

Valedictorian | 4.53/4.0 GPA | 45/45 points on International Baccalaureate exam, top 1% of global candidates awarded

2017 – 2021

## Work Experience

### GOOGLE

Sunnyvale, CA

#### Software Engineering (STEP) Intern

May 2023 – Present

- Designing, implementing, and testing efficient and scalable parallel-processing data pipelines using FlumeJava and MapReduce frameworks to extract and aggregate useful web-domain level signals from over 100 billion webpages
- Signals used to enhance the user and business knowledge base for Google Workspace's Growth & Revenue Optimization team's machine learning models, utilized for setting account pricing and predicting account downgrades

### GEORGIA TECH COLLEGE OF COMPUTING

Atlanta, GA

#### Undergraduate Teaching Assistant (Homework Lead)

August 2022 – Present

- Managing a team of 40 TAs in the development and grading of 12 homework assignments per semester for ~700 students as TA Homework Lead for CS 1331: Intro to Object-Oriented Programming, under Prof. Richard Landry and Dr. Aibek Musaev
- Leading weekly recitations for 50 students and helping students with problem-solving and code debugging during one-on-one office hours
- Grading 4 exams per semester and writing auto-grader unit tests for assignments using the Java Reflections library

### ERMI

Atlanta, GA

#### Engineering Intern

July – August 2021

- Analyzed data and created decision trees from health insurance claims data from over 1k knee surgery patients using R
- Identified the highest cost patients to target for non-surgical intervention

#### Engineering Intern

July – August 2019

- Analyzed 10k+ data points from a robot that diagnoses knee injuries
- Learned and used R to organize and visualize datasets in over 40 plots to assess the reliability and accuracy of the robot
- Analysis to be incorporated into research papers

### GEORGIA TECH RESEARCH INSTITUTE

Atlanta, GA

#### Research Intern

June – July 2020

- Worked in a team of 4 to develop an app that creates a Bluetooth mesh network for emergency communication
- Implemented routing algorithms in Python and Java and ran simulations of the app to investigate network properties and stability

## Leadership and Involvement

### GEORGIA TECH FINANCIAL SERVICES AND INNOVATION LAB

Atlanta, GA

#### Undergraduate Researcher

January – May 2023

- Led a team of 4 researchers in performing sentiment analysis on earnings calls (EC) transcripts on 12 electric vehicle (EV) companies using the natural language processing model FinBERT and library NLTK
- Developed a custom web scraper using BeautifulSoup to extract over 70 EC transcripts from financial advice site The Motley Fool
- Created dynamic visualizations from analyzed text data to conclude that 5 major US government policies drove spikes in positive sentiment in ECs from companies that focus on EV production

## Example Projects

### Minesweeper Probabilistic Strategy (Personal Project)

December 2022 – Present

- Developed a probabilistic algorithm to solve Minesweeper games with 96%, 80%, and 30% win rates for easy, medium, and hard difficulties, significantly higher than the approximate 46%, 22%, and 13% human win rates for each respective difficulty
- Implemented gameplay from scratch in Java with JavaFX for a responsive user interface and applied graph algorithms with an object-oriented approach for game logic

### Ruter-Sju Card Game Bot and Monte Carlo Simulation (Personal Project)

December 2021 – November 2022

- Designed and implemented algorithms in Python to play card game Ruter-Sju to investigate best game strategy
- Built a Monte Carlo simulation with 20k+ games and used Pandas and PyPlot libraries to analyze and visualize game data

## Skills

**Technologies:** Python (Including Pandas, NumPy, BeautifulSoup), Java (Including JavaFX, FlumeJava, Android Studio), C, SQL, R

**Languages:** Fluent in Spanish, Swedish, English

**Affiliations:** Delta Chi Fraternity (Scholarship Chair), Society of Hispanic Professional Engineers, Consult Your Community