

# Swastik Samanta

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## EDUCATION

### Georgia Institute of Technology

BS/MS in Computer Science, GPA: 3.76, Specialization: Machine Learning

Atlanta, GA

August 2022 – May 2026

## EXPERIENCE

### U.S. Bank

June 2024 – Present

Software Engineer Intern

Atlanta, GA

- Developing features for Zelle's send, request, split, and activity micro-services with React/Node.js and GraphQL
- Implemented a sorting function on UI side to correct GraphQL calls and ensure sorting by date on activity page
- Incorporated error module for users attempting to send over their daily limit, caching user data with Apollo Client
- Finetuning LLM to create a Financial Journey Assistant proof-of-concept for the Case Competition in which we explore solutions to consolidate the Bank's business lines and present to C-suite

### LIDAR @ Georgia Tech

Aug. 2023 – Present

Undergrad Research Assistant

Atlanta, GA

- Member of a research project mentored under Dr. Ye Zhao aimed to develop a terrain adapting robot
- Read data with Arduino sensors and Raspberry Pi/Teensy micro-controller architecture, utilizing Pandas to pre-process data and performed feature extraction with ZCR, FFT, mean, min/max for dimensionality reduction
- Implemented ML models in PyTorch, resulting in 99.9% accuracy with Random Forest for terrain classification
- Developed a Gazebo Simulation for the robot in a Linux Ubuntu/ROS Noetic environment with C++

### Tatum Games LLC

July 2023 – Oct. 2023

Captain Web Developer Intern

Santa Barbara, CA

- Spearheaded a start-up's product MIKROS, a SaaS SDK that enrolls developers in a data-sharing ecosystem
- Harnessed JavaScript and HTML/CSS to integrate UI/UX features to an analytics dashboard for data visualization
- Developed unit tests achieving 87% codebase coverage, reduced page loads by 14%, and provided documentation
- Utilized AGILE methodologies through JIRA and Git/GitHub, leading weekly training sessions and stand-ups

### College of Computing

May 2023 – Aug. 2023

Undergrad Teaching Assistant

Atlanta, GA

- Teaching Assistant for over 100 students in Georgia Tech's CS 2050: Discrete Mathematics
- Led office hours, teaching and leading discussions on concepts such as time complexity, cryptography, and induction
- Aided development of an autograder with Java, JUnit, and Gradle to ease the grading of problem sets/exams

## PROJECTS

### Youtube Clone | *React/Next.js, TypeScript, Node.js, GCP, Docker, Firebase*

May 2024 – Present

- Developed a video processing microservice with Express and Node, deploying to Google Cloud Run
- Utilized Pub/Sub data pipeline to upload videos to Storage Buckets, and cloud functions to query Firestore

### March Madness Predictor | *PyTorch, Pandas, NumPy, TensorFlow, Scikit-Learn*

Jan. 2024 – April 2024

- Utilized Pandas for data preprocessing, and clustered teams based on statistic averages with K-Means/GMM
- Leveraged Ridge Regression to down-select features for split-testing our RNN and developed a Random Forest
- Employed TensorFlow to design RNN and LSTM architectures, yielding 67% accuracy across the 2024 bracket

### Personal Virtual Assistant | *Python, Flask, PyTorch, Pandas, NumPy*

Nov. 2022 – Jan. 2023

- Created a portfolio frontend and integrated a chat bot assistant by constructing Flask REST API endpoints
- Utilized NLTK to create an NLP model using techniques such as tokenization, stemming, and bag of words
- Designed a JSON file consisting of training data covering my hobbies, interests, and experiences

## TECHNICAL SKILLS

**Languages:** Python, JavaScript/TypeScript, HTML/CSS, Java, C/C++, SQL

**Frameworks:** React, Node.js, Flask, Next.js, PyTorch, TensorFlow, SpringBoot

**Developer Tools:** Git/GitHub, Docker, Kubernetes, Jenkins, Google Cloud Platform, AWS, Azure

**Libraries:** Pandas, NumPy, Matplotlib, NLTK, Scikit-Learn