

Swastik Samanta

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Education

GEORGIA INSTITUTE OF TECHNOLOGY | ATLANTA, GA | AUGUST 2022 – MAY 2025

- *B.S Computer Science*, Intelligence & Media, GPA: 3.66, Dean's List, Junior Standing
 - *Relevant Coursework*: Data Structures and Algorithms, OOP in Java, Design and Analysis of Algorithms, Computer Organization and Programming
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Experience

LEAD WEB DEVELOPER INTERN | TATUM GAMES LLC | JULY 2023 – PRESENT

- Spearheaded a start-up's product MIKROS, a **SaaS SDK** that enrolls app developers in a **data-sharing** ecosystem regarding **user analytics**
- Harnessed **JavaScript**, **HTML/CSS**, **PHP**, and **Tableau** to integrate fluid **UI/UX** features for **data visualization**
- Developed **PHP** and **JavaScript** unit tests to verify algorithmic calculations and improved the page loads of MIKROS by **14%**
- Captained the **Web Development** team using **AGILE** methodologies through **JIRA** and **Git/GitHub**, resulting in **100%** daily sprint completion

MACHINE LEARNING ROBOTICS RESEARCH | AGILE LOCOMOTION AND MANIPULATION | MAY 2023 – PRESENT

- Member of a research project mentored under Dr. Ye Zhao at **Georgia Tech** aimed to develop a terrain perceiving/adapting **bipedal robot**
- Optimized **Random Forest** algorithms that classify/predict terrain based on foot **sensor data** on a **Raspberry Pi**, using **Python** and **PyTorch**
- Architected a **Convolutional Neural Network (CNN)** for image-based **object detection** capabilities, achieving **76%** accuracy

TEACHING ASSISTANT | GEORGIA INSTITUTE OF TECHNOLOGY | MAY 2023 – AUGUST 2023

- TA for over **1000** students in Georgia Tech's **CS 2050** – Intro to **Discrete Math** CS course
- Led office hours in which I taught and led discussions on concepts such as **time complexity**, **cryptography**, and **math induction**

ANALYTICAL INTERN | DANIMER SCIENTIFIC | MAY 2021 – AUGUST 2021

- Interned at an analytical lab for a materials company that specializes in biodegradable plastics, performing **data analysis** for **R&D**
 - Utilized **Python** and **Excel** to evaluate potential manufacturing inefficiencies from sample data, decreasing raw-material waste by **15%**
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Projects

CUSTOM T-SHIRT WEBAPP

Developed a 3D web application that generates custom T-Shirts based on specified color and design using JavaScript, React, and Node.js. Incorporated custom color, file support, and utilized DALL-E AI API to generate custom designs based on user prompts or file-uploads.

SKILLS: JavaScript, HTML, React.js, Node.js, Vue, Tailwind CSS, 3rd Party APIs (DALL-E), Framer Motion, ThreeJS, Full Stack Development

AI SUPPORT BOT

Integrated an AI support bot into my T-Shirt Generator web application using a Python/Flask backend and JavaScript frontend. Utilized PyTorch, NLTK, and NumPy to create a machine learning model using natural language techniques such as tokenization and stemming.

SKILLS: Python, NumPy, Pytorch, NLTK, Flask, JavaScript, HTML/CSS, Machine Learning, LLMs, Natural Language Processing

MACHINE LEARNING TRADING STRATEGY

Created a stock trading strategy using machine learning and data analysis from yahoo finance, averaging a 9% increase in returns. Utilized Support Vector Machines through Scikit-learn to create a Linear Regression model that predicts whether to buy or hold/sell a stock.

SKILLS: Python, NumPy, Pandas, Scikit-learn, Linear Regression, Matplotlib, CSV File Manipulation, Machine Learning, Finance/Trading

Technical Skills

LANGUAGES: Python, JavaScript, HTML/CSS, PHP, Java, C++, C#, C, MATLAB

LIBRARIES/Frameworks: NumPy, Pandas, Scikit-learn, PyTorch, NLTK, Flask, Tailwind CSS, MongoDB, Express.js, React.js, Node.js (MERN)

DEVELOPER TOOLS/TECHNOLOGIES: Jira, Git/GitHub, VSCode, Tableau, Jupyter Notebooks, Anaconda, Microsoft Suite, Windows. Linux, XAMPP