ARCHISHMA GOLI

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EDUCATION

Georgia Institute of Technology Atlanta, GA
BS Computer Science, BS Mathematics; *GPA: 4.0* August 2022 - Present

- *Concentrations:* Intelligence and Information Internetworks; Probability and Statistics
- *Relevant Coursework:* Design and Analysis of Algorithms, Computer Organization and Programming, Probability Theory, Object-Oriented Programming

SKILLS

Languages: Java, Python, C++, HTML/CSS, LaTeX, JavaScript, C#, SQL
Libraries/Frameworks: Matplotlib, Pandas, NumPy, scikit-learn, TensorFlow, Keras, Django, MERN Stack
Industry Tools: Git/GitHub, Tableau, Figma, VS Code, Google Colab, Redocly, Microsoft Office Suite, Windows OS

EXPERIENCE

Undergraduate Researcher Atlanta, GA
Technology + International Development Laboratory May 2023 - Present

- Conduct a **time series + sentiment analysis** through social media posts using **NLP methods** in **Python** to determine key healthcare-related insights and enhance a health-based text-messaging nudge initiative conducted by Emory Healthcare and the Morehouse School of Medicine.
- Create an interactive end-user dashboard in **Tableau** consisting of the current week's social media time trends to inform nudge authors in drafting bi-weekly nudges to send to participants in the study.

Data Analytics and Visualization Intern Atlanta, GA
MedTrans Go May 2023 - Present

- Develop and integrate advanced admin-facing and customer-facing dashboards using **Tableau** and **MongoDB** consisting of **over 25 custom actionable metrics** to the product portal, improving organizational decision-making and creating an **additional revenue stream** from top-volume clients.
- Generate custom "week at a glance" and "month at a glance" operational visualizations for internal reporting coverage, reducing manual computation time by **50+ hours** yearly.
- Develop a **custom API** between HubSpot and Zoom that automatically documents interactions with potential clients and saves **$1000+ yearly** in additional spending on a potential third-party option.
- Create a **custom 5-star rating algorithm** using a combination of machine learning and Bayesian average methodologies to **automate accurate request dispatching** to company-affiliated partners.
- Collaborate with intern cohort to create a **foundational analytics workflow** for future metrics calculations within newer areas of the company.
- Presented to the CEO and COO an in-depth analytics report of Interpretation service data for 2022 and 2023 (YTD) using **Pandas, scikit-learn, and matplotlib**.

Undergraduate Researcher Atlanta, GA
Georgia Institute of Technology - Vertically Integrated Projects (VIP) January 2023 - Present

- Design and deploy a network of IoT devices to create a **"Smart Stadium"** and enhance the fan experience at Georgia Tech's Bobby Dodd stadium.
- Develop **over-the-air functionality** with TCP/UDP for SensorMote boards to enable **remote updates** and **software version control**.
- Transferred functionality of Coordinator single-board computer to pre-existing **MSP-432** Clusterhead board series, decreasing code complexity by over **80%** and improving network latency by **up to 5 minutes.**

Teaching Assistant Atlanta, GA
Georgia Institute of Technology January 2023 - Present

- Created instructional content, grade assignments, and write homework autograder applications in **Gitlab** for Introduction to Object-Oriented Programming course in **Java** (CS 1331).
- Taught weekly recitations and held office hours for **800+ enrolled students** each week.
- Incoming Teaching Assistant for **Data Structures and Algorithms** course (CS 1332) for Fall 2023 semester.

Software Engineering Intern   Atlanta, GA
LeaseQuery   May 2022 - August 2022

- Developed **bulk financial lease update and upload features** using the **.NET Framework** in collaboration with Senior Software Engineers, increasing lease upload volume by **twenty-fold**.
- Collaborated with 10+ engineers on feature development for Ellie, a UI Redesign project, using **React.js** and **C#**.
- Wrote end-to-end automated **Jest tests** and fixed critical backend bugs for Ellie's MVP release.

Machine Learning Research Intern   Atlanta, GA
Kennesaw State University   August 2021 - December 2021

- Researched the impact of **adversarial attacks on deep learning recognition models** in order to build and train a robust deep learning model to recognize handwritten text.
- Model achieved **90%+ testing and validation accuracy** in recognizing handwritten characters.
- Implemented attack defenses that improved accuracy against **black-box adversarial attacks** by over 30%.

PROJECTS

Improved QuakeCaster Lab
C++, Arduino, Python, SOLIDWORKS

- Designed and prototyped a **fully automated** for implementation in Georgia Tech's Earth Science laboratory courses.
- Configured full lab hardware setup using an **Arduino Uno** board as the software interface for communications and designed a custom 3D-printed container with **SOLIDWORKS** CAD software to enclose electrical breadboard components.
- Developed an interactive GUI through Python's **tkinter** library for customization of motor speed values and utilized **matplotlib**'s **Animation API** to enable real-time graphing of sensor values.

Reinforcement Learning: Isolation
Python, Machine Learning

- Researching the development, training, and use of **Reinforcement Learning agents** to establish a baseline player ranking system centered around the game "Isolation."

PUBLICATIONS

Spring 2023 Smart Stadium VIP Team, "The Smart Stadium Testbed for Sensing and Communication Systems," in *Submitted to the 2023 IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, 2023.

EXTRACURRICULAR INVOLVEMENTS

Director of Hacklytics   Atlanta, GA
Data Science at Georgia Tech   May 2023 - Present

- Spearhead Georgia Tech's **largest data science hackathon**, Hacklytics, for the 2024 hackathon season.

Internal Affairs Chair   Atlanta, GA
Association of Women in Mathematics   May 2023 - Present

- Organize mentorship events, research presentations, and study sessions for **100+ degree-seeking mathematics undergraduates**.
- Coordinated volunteer team for the 2023 Mathapalooza at the **Atlanta Science Festival**.

Fullstack Developer   Atlanta, GA
Deep Learning Playground   August 2022 - Present

- Using **React.js, Next.js, Python, and AWS** to develop a no-code tool that allows users to create and train machine learning and deep learning models.
- Generated **end-to-end API documentation** under the OpenAPI framework using **Redocly**, an UI-friendly/industry-standard API documentation tool.
- Implemented a stylistic **dark mode** on the frontend and resolved **security vulnerabilities** within the middleware and backend API.

Awards

National Cyber Scholar with Honors   National Cyber Scholarship Foundation
Awarded a $3,000 scholarship for placing in the **top 0.5%** of the NCSF Cyber Competition.   August 2022

SWENext Global Innovator   Society of Women Engineers
Awarded to students who have demonstrated exceptional leadership skills in STEM and have spearheaded numerous
initiatives to further science and technology education within their community.   June 2021

Certifications

Foundational Cybersecurity Technologies Certificate   GIAC Certifications
Gained proficiency in computer hardware, exploitation, and programming fundamentals.   February 2022