

Daiwik Pal

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Education

Georgia Institute of Technology | Atlanta, GA

August 2022 – May 2023

Bachelor of Science in Computer Science GPA: 3.75

Deans List

Concentration: Intelligence & Information/Internetworks

Coursework: Data Structures and Algorithms, Computer Systems and Networking, Statistics, Linear Algebra

Worcester Polytechnic Institute | Worcester, MA

August 2021 – May 2022

High School Dual Enrollment Classes with Massachusetts Academy of Math and Science; GPA 4.00

Presidents List

Skills

Languages: Java, Python, JavaScript, HTML, CSS, C/C++, R, Racket, SQL

Technologies: Next.js, Express + React.js, Node.js, MongoDB, Flask, Android, Java Spring Boot, Tensorflow, GCP Vertex AI/AutoML, OpenCV

Experience

Peak Technologies

May 2023– August 2023

Machine Learning/Software Engineering Intern

Greater Boston Area, MA

- Spearheaded research and design for backend architecture to store and perform video analytics on warehouse videos using MongoDB, Java Spring Boot, and Python
- Designed and developed an end-to-end ML Application using Flask, JavaScript, and Python by deploying an object detection model using the Tensorflow.js library
- Implemented a shift to client-side computing for increased security by allowing clients to demo and analyze key model metrics about Peak's package detection models on sensitive images locally
- Developed a pipeline using Node.js and Flask to automate model execution on datasets (88000+ images) and with a process to monitor and evaluate the performance, drift, and accuracy of deployed models
- Reduced pipeline latency by 200ms by refactoring redundant code and minimizing costly session storage calls

Siena Analytics

June – August 2021, March -August 2022

Data Analytics/Software Engineering Intern

Greater Boston Area, MA

- Created data-pipeline to perform image pre-processing on 40,000+ barcode images before feeding into decoding model and improving barcode decoding rates by 25% using Python and OpenCV
- Migrated local running ML models to Google Cloud Vertex AI by creating docker files to train custom AI Models
- Increased model efficiency through researching hyper-params and implementing Google Brain Team's EfficientDet-D0 Object Detection model on Vertex AI

Organizations

GT Web Dev Club, Bits of Good – Georgia Tech Hack4Impact Chapter

Fall 2022 – Present

Software Developer, Executive Board/Bootcamp Instructor (Web Dev Club)

Atlanta, GA

- Created real-world webapps for clients such as local non-profits and organizations in Atlanta region
- Developed CRUD webapps using React+Express.js, Next.js, MongoDB, and REST APIs in an Agile workflow
- Punchshot Pickleball (Client Project) – a social media application for Pickleball players, organizations, and tournaments
- Implemented authentication features using “bcrypt” encryption library and JWT Tokens
- Crafted and taught lessons to 140 new members on topics such as JavaScript, APIs, middleware, and backend architecture

Big Data Big Impact Club

Fall 2022 – Present

Data Scientist & Software Developer, Analytics Lead

Atlanta, GA

- Created a SteamLit application using a Random Forest Regression model to predict housing prices in Georgia without 3rd-party bias
- Cleaned and enhanced Georgia housing data by curating relevant and unique features such crime rate, job rate, education
- Developed algorithms such as decision trees and random forest regression, achieving a mean absolute error of ~2000
- Demonstrated leadership skills by guiding the team's analytical approach and fostering a collaborative environment that welcomed constructive disagreements and facilitated conflict resolution through decision matrices

Projects

MusiWrite – Android App | Java, Python, Android Studio, Chaquopy - Python SDK for Android

- Designed and built an Android App that helps people who are hard of hearing experience music visually
- Developed Python code to analyze MIDI audio files for pitch, intensity, and duration
- Created Java code to allow users to upload personal music and produce real-time Piano Scroll animations
- Used Chaquopy to integrate Python code by creating APIs to call Python code in Android App

Predicting COVID-19 Transmission Risk | Python, Pandas, StreamLit, Data Analytics, Modeling

- Conducted an independent research project to develop a probabilistic model to calculate COVID-19 transmission risk
- Developed a webapp that allows users to compare the transmission risk of contracting COVID-19 between two venues
- Used Python, Pandas, and the Streamlit Framework for backend and Streamlit Framework for frontend

Awards & Certifications

□ **Data Science with Python Certification:** Grow with Google and Simplilearn

May 2023

□ **CyberPatriot - Cyber Security Competition:** 2nd Place State Award – Platinum Tier

Nov 2021

□ **Massachusetts Science and Engineering Fair:** 1st Place Award, Foundation Medicine Award

March 2021

□ **Massachusetts Academy of Science Research Symposium at MIT:** Finalist, Presenter

Oct 2021