MAHESH NATAMAI

maheshkumar.natamai@gmail.com · maheshnatamai.com
linkedin.com/in/mahesh-natamai · github.com/MaheshNat

EDUCATION

Georgia Institute Of Technology — Expected Graduation: Dec 2024
BS Computer Science *GPA: 4.0* — *Atlanta, GA*

Relevant Coursework: Data Structures And Algorithms, Discrete Mathematics, Linear Algebra

WORK EXPERIENCE

Brains 4 Drones — Jun 2021 - Sep 2021
Computer Vision Intern — *Plano, TX*

- Led project systematically testing novel keypoint detection/description algorithms for simultaneous localization and mapping (SLAM) on autonomous drones.
- **Increased accuracy of keypoint matching algorithm by 15%** by variating standard algorithm.
- Developed custom algorithm to efficiently select photos for drone camera calibration from 5-dimensional point cloud, **reducing calibration times by $\sim$ 10-20 seconds**.
- Simulated drone hardware pipeline for keypoint descriptor experiments using python and jupyter notebooks. Vectorized implementations using numpy for a >**10x speedup**. Utilized Robot Operating System (ROS) to interface with collected bag data.

Fiverr — Nov 2020 - Jun 2021
Discord Bot Developer — *Plano, TX*

- Seller with over **18k impressions**, **30+ clients**, and a **5.0 star rating** for Node.js discord bot development.
- Integrated 3rd party APIs (twitch, hosting services, custom servers, etc.), using MongoDB and MySQL.

PROJECTS

AI Powered Video Search *Python, Flask, Pytorch, React.js, Tailwind* — `https://getscry.tech`

- Architected web app leveraging OpenAI's machine learning models to search through video frames and audio transcripts with natural language prompts, enabling surveillance systems to be easily navigable.
- Used ANNOY index to efficiently compute similarity scores. Created custom video downloading, diarization, transcription, and embedding generation pipeline.
- Currently analyzing video from GTPD (Georgia Tech Police Department) to combat pain points in existing camera surveillance system. Transfer learning existing models to improve accuracy on incident detection tasks.

Sign Language Classifier *Next.js, Python, Flask, Tensorflow* — `https://github.com/MaheshNat/Signify`

- Designed ML model and web app to enable members of the deaf and hard of hearing communities to communicate with those who do not understand ASL (American Sign Language) using machine learning.
- Leverages custom-trained convolutional neural network (CNN) built using Tensorflow to translate ASL.

Skill Bartering Platform *MongoDB, React.js, Node.js* — `https://github.com/MaheshNat/Menter`

- Architected during a hackathon as an education tool for skill bartering, i.e. allowing students to learn skills if they have something to teach in return.

VOLUNTEERING/CLUBS

Bits Of Good — Aug 2022 - Present
Fullstack Engineer — *Atlanta, GA*

- Developing platform for nonprofit "Motherhood Beyond Bars" enabling incarcerated women to communicate with their children and receive necessary products. Using Next.js and Firebase.

SKILLS

Programming Languages:	Python Java JavaScript TypeScript Node.js HTML CSS
Web Frameworks/Libraries:	React/Redux Next.js Angular Flask Express.js Firebase
Data Science:	Numpy Pandas Tensorflow Matplotlib OpenCV
Misc:	MongoDB MySQL PostgreSQL Agile Git Linux

AWARDS

First place in the tech category, most voted — Jumpstart Edtech Hackathon
Won first place in the tech category and most voted out of 200 participants for my team's submission to the Jumpstart Edtech startup competition/hackathon: Menter.

First place — Congressional App Challenge
Won first place for Signify, an app submitted to the congressional app challenge