

TRISHUL NAGENALLI

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EDUCATION

Duke University 2020
BS Computer Science
BSE Electrical & Computer Engineering
GPA: 3.93 | Magna Cum Laude | Garda Scholar | Tau Beta Pi Honor Society

SKILLS

LANGUAGES: Python, Go, Terraform, TypeScript, Java, C/C++, SQL, SML, Verilog
TOOLS: Kubernetes, Workflows, Docker, gRPC, Microservices, SQL/NOSQL, REST API
AWS: Lambda, DynamoDB, S3, SQS, EKS, Cloudformation
DATA & ML: Pandas, Numpy, Tableau, OpenCV, PyTorch
COURSEWORK: Compilers (Grad Level), Machine Learning (Grad Level), Deep Learning (Grad Level), Cyber-Physical Systems, Embedded Systems, Robotics
INTERESTS: Cloud Native Architecture, Functional Programming, AI/ML Pipelines, Serverless, Distributed Systems, Robotics, IoT, Football, History, Climate Change

EMPLOYMENT

CLUMIO Santa Clara, CA
Software Engineer Aug. 2020 to Feb. 2021

- Built a dynamic infrastructure deployment microservice using Go, Workflows, DynamoDB, and AWS Cloudformation.
- Collaborated on design with one senior engineer. Worked with multiple other engineering teams to gather requirements.
- Abstracted AWS and Azure infrastructure logic for three client services. Designed for surges of 1 million simultaneous requests.

POINT72 New York, NY
Data Science Intern June 2019 to Aug. 2019

- Developed predictive analytics and visualization tools for an algorithmic trading team using Python, SQL, and Tableau.
- Automated production and analysis of 150 benchmark signals every day totaling approximately 10 million SQL records.
- Built a Tableau dashboard to understand benchmark performances and how team's strategies compare.

SMART HOME SENTRY San Francisco Bay Area
Software Engineering Intern June 2018 to Aug. 2018

- Redesigned and setup an image processing pipeline using AWS that scans 1000+ images every day.
- Wrote a REST API for our customer portal using the Python-Django REST Framework, PostgreSQL and DynamoDB.
- Developed and implemented a static-object detection algorithm to reduce false positives in customer notifications.

DUKE DATA PLUS Durham, NC
Research Intern May 2017 to Aug. 2017

- Developed geo-referenced composite satellite imagery datasets for predicting rural electricity access with computer vision.
- Designed and built a customizable platform to crowdsource image annotation data using Amazon Mechanical Turk.
- Published electrification and satellite imagery data for 30,000 villages and 4000 annotated powerplants on Figshare.

PROJECTS

TIGER COMPILER Jan. 2020 to May 2020

- Wrote a compiler in SML, a functional programming oriented language, to translate Tiger to MIPS Assembly.

REEM ROBOTIC MIDDLEWARE Jan. 2019 to May 2019

- Built Redis based robotic middleware. Supported pub-sub and key-value store paradigms. Published and documented on PyPI.

SPOOF DETECTION Feb. 2017 to Aug. 2018

- Researched methods to identify picture and video spoof attacks on facial recognition systems using opencv, and sk-learn.
- Transformed stereo images into 3D facial depth maps and trained an SVM to 97% accuracy on a 1500 image dataset.

ACTIVITIES

ELECTRICAL ENGINEERING TEACHING ASSISTANT · Undergraduate Lab TA Jan. 2019 to May 2020

- ECE 350 Digital Systems (Fall '19 - Spring '20): Administered a digital systems lab section and advised final projects.
- ECE 110 Intro to ECE (Spring '19 - '20): Helped freshman engineers build Arduino robots in intro electrical engineering course.

VSNA · Technology Committee, Web Developer Jan. 2018 to Current

- Volunteering to build an online home for a cultural organization important to my upbringing.
- Evolved technology stack as I learned from static pages to React, from Flask to Django. Deployed on Heroku.