

Suresh Nayak

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EDUCATION

UNIVERSITY OF COLORADO BOULDER, Boulder, CO

Expected 2023

MS Computer Science GPA: 4.71

- Relevant course work: Linear Programming, Neural Networks and Deep Learning, Datacenter scale computing, Advanced Algorithms, Object-Oriented Analysis & Design, Distributed Systems

R V COLLEGE OF ENGINEERING, Bangalore, India

2018

BE Information Science. GPA: 8.4/10

PUBLICATIONS

- ShelfHelp: Empowering Humans to Perform Vision-Independent Manipulation Tasks with a Socially Assistive Robotic Cane AAMAS, TBD

SKILLS

- Languages: Python, Java, C/C++, SQL, HTML/CSS, LaTeX.
- Databases: MySQL.
- Frameworks and Libraries: NumPy, Rest, RabbitMQ, Pandas, TensorFlow, Pytorch, TF Light, Media pipe OpenCV.
- Tools and Software: Git, Docker, GitHub Actions, VSCode, Postman, Jupyter Notebook, Kubernetes. ROS
- Knowledge: Data Structures & Algorithms, Testing, Data Analysis, Machine Learning.

ACADEMIC PROJECTS

SMART CANE FOR GROCERY SHOPPING ASSISTANCE.

Current

- Designed and executed an end-to-end AI system to assist a visually impaired person in grocery shopping. The AI would Detect the desired product and person's hand location using **deep learning models** and issue appropriate verbal commands to fetch the item from the shelf.

CLOUD DEPLOYMENT AND INFRA

August 2021

- Deployed a cloud-native application- stock-recommendation provider using Artificial Neural Networks on the google cloud platform to predict the stock opening price for a given stock with an accuracy of 40%.

RotLA GAME SIMULATION

August 2021

- Implemented a java based RotLA simulation game by incorporating multiple **design patterns**.

IMAGE PROCESSING/TRANSMISSION

Image Processing Lead

August 2018

- Created a software to identify objects in bird-view images taken during Drone surveying using OpenCV (C++). The software could classify and detect objects in images with an accuracy of 95%.

EXPERIENCE

UNIVERSITY OF COLORADO BOULDER, Boulder

2021 - Present

Graduate Teaching Assistant

- **Conducted recitation classes**, interview grading, and held office hours for the course "Computer Systems" for a class of 379 students.

Graduate research Assistant – Robotics Lab

2022 - Present

- Generated hand movement dataset using Opti-Track sensor and emulated the system on RealSense D435 Camera using Deep learning algorithms.

CISCO SYSTEMS, Bangalore

2018 - 2021

Software Engineer

- Redesigned a software mechanism to monitor the liveness of process in Cisco XR routers and provide a means of recovering it whenever a critical process gets hung. **Feature is currently deployed in the XR routers** resulting in bug count by 10%.
- Devised a feature related to high availability components (in-memory database) during product release cycle efficiency reducing workload overhead by 80%.
- Developed a feature for Private line emulation (a **Cisco patented project**) to encapsulate other network packets in OTN packets. enabling customers to leverage existing infrastructure to connect to an OTN network with zero hardware cost.
- Migrated software components from GCC to Clang Compiler enforcing inter component tight coupling, helping team achieve **bug count less than 10**.

ACHIEVEMENTS

- Finalists of the Student Unmanned Aerial Systems, hosted by the AUVSI Seafarer Chapter.
- Multiple Connected recognitions for Dedicated Project Deliverables, Cisco Systems.