NIDHISH SHAILENDRA SAWANT

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EDUCATION

University of Southern California Jan 2024 - Dec 2025
Master of Science in Computer Science GPA: 4.0/4.0

Indian Institute of Technology (IIT) Goa Aug 2018 - Jul 2022
Bachelor of Technology in Computer Science and Engineering GPA: 9.14/10

EXPERIENCE

Data Science and Operations Research Engineer, Optimal Solutions Inc. Aug 2022 - Dec 2023

- Lead the development of a Demand Forecasting Software as well its the core Algorithm using Python and Exploratory Data Analysis
- Built an end-to-end web app to deploy calibration models and automate complex processing and analysis for the analysis of real-time Near Infrared Spectroscopy data using Flask and Dash to serve the front-end coupled with TileDB as the database
- Built extensive Machine Learning Pipeline in Python with state-of-the-art ML models to analyze real-time incoming data from remote NIR sensor
- Developed Machine Learning models predict the concentrations of variables of interest and achieved an accuracy of predicting 95% of samples within 10% error bound with correlations of ~90% with a small dataset of around 150 data points
- Developed the backend leveraging C# and the .NET framework to integrate the Gurobi optimizer with the company's OR tool

Research Intern, University of Buffalo, SUNY Jun 2021 - Dec 2021

- Implemented a Zero-Shot Sketch-Based Image Retrieval system leveraging ResNet Convolutional Neural Network combined with Graph Neural Network that aimed at retrieving images corresponding to a sketch query
- Leveraged cross-modal attributes of sketches and a verbose text query to retrieve relevant images using the Word-Net
- Achieved a remarkable ~4% improvement over the baseline State of the Art Method for Image Retrieval
- Developed a extensive UI for facilitating the user interaction using WordPress and PostgreSQL

Full Stack Web Development Intern, Indian Institute of Technology Goa May 2019 - Jun 20219

- Built an interactive website to display the campus map of IIT Goa
- Used the HTML, CSS and JavaScript to build an interactive front-end and used a PHP server to serve the website
- Built an effective 3D map using paint 3D
- Achieved institute wide recognition for the work done in limited period

PROJECTS

Stock Trading and Digital Wallet Android App [GitHub] | *Android, Java, Node.js, Express, MongoDb, RestAPI, AWS*

- Developed a production ready Stock Trading Android Application
- Used Java to write the front-end logic and Ajax and Javascript to make RESTful API calls to a Node.js backend server
- Hosted the server on Amazon AWS EC2 instance and made the app stateful by supporting user Authentication and Verification using MongoDB as the database

Web App for Portfolio Analysis [GitHub] | *Angular, HTML, CSS, JavaScript, Node.js, Express, Highcharts, Rest API, GCP*

- Built a Full Stack Web Application which helped analyze a user's investment portfolio
- Extensively used the MEAN stack for implementing the application and hosted it on the Google App Engine
- Used Rest API to fetch real-time data on company shares from live trading websites and Highcharts API for data visualization

Face Recognition and Emotion Detection on Fisheye Images [GitHub] *Pytorch, Python, Open-Cv, Numpy, Pandas, Sci-kit Learn*

- Conceptualized a Novel Dataset of Fisheye Images for the purpose of Face Detection in a wide real-world setting
- Built an in-house image distortion algorithm to convert rectilinear images to fish-eye images
- Did extensive hyper parameter tuning which helped achieve comparable results to the State-of-the-Art method

SKILLS

Languages: Python, C, C++, C#, R, Java, SQL, JavaScript, TypeScript, Perl, Matlab
Web Development and Databases: Flask, Dash, React, AngularJS, GraphQL, MongoDB, MySQL, PostgreSQL, HTML, CSS
Data Analysis: Pytorch, Numpy, Pandas, Seaborn, Matplotlib, Sklearn, Tensorflow, Keras, Open-CV
Other: Git, GitHub, Docker, AWS, Azure, GCP, LaTeX, MS Office Suite (MS Word, MS Excel, MS Powerpoint),