Rohit Midha

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Education

- **Imperial College London** — London, United Kingdom
  MSc Computing (Artificial Intelligence and Machine Learning) — *Sept. 2023 – Sept. 2024*
- **SSN College of Engineering, Anna University** — Tamil Nadu, India
  Bachelor of Engineering in Computer Science and Engineering; GPA: 9.19/10.0 — *Aug. 2017 – July 2021*
  University Rank: #10 of 15000+, College Rank: #3

Experience

- **Shrimad Rajchandra Mission, Dharampur**
  AI Engineer Volunteer — *December 2022 – Present*
  - **Multilingual AI**:
    - Engineered personalized text-to-speech synthesis models across eight languages, embodying Gurudev's unique vocal essence, thereby broadening access to spiritual wisdom. View Global Launch!
    - Implemented pipelines to automate subtitling and translation processes, resulting in a substantial reduction of upload time from 12 hours to just 3 hours.
- **Langchain**
  Open Source Contributor — *May 2023 – Present*
  - **LangchainJS**:
    - Implemented various LLM chains, such as the Refine LLM Chain.
    - Introduced Entity Memory store in that interacts with LLM Chains and Prompt Templates to provide entity context.
- **Goldman Sachs**
  Engineering Analyst — *August 2021 – May 2023*
  - **Risk Analysis and Review Engine (RARE)**:
    - By automating archaic workflows, RARE lowers costs and improves the quality and UX of the review process.
    - Designed system for early detection of anomalies increasing anomaly detection by 30%.
    - Reduced review time by a third, from over 6 hours to 2 hours.
    - Engineered the backend architecture for the platform using Java micro-services and deployed via Kubernetes.
    - Designed the Stats and Management Dashboard to provide high-level insights to senior management.
    - Optimized data flow for calculating Net Cash Outflow across various business hierarchies.
    - Spearheaded the initiative to onboard onto Snowflake, reducing data access time by 41%.
    - Defined the SLA and set up a custom Prometheus framework for monitoring the Kubernetes deployments.
    - Mentored and trained 3 graduate-level software interns, with each getting return offers.

  Summer Analyst — *May 2020 – June 2020*

  - **Risk Metrics Inventory UI**:
    - Developed a React UI that acts as a central registry and lets users perform CRUD operations on metrics meta-data, keeping inter-dependencies consistent.
    - Reduced onboarding time from over 5 minutes to under a minute.
- **Indian Institute of Technology, Madras**
  Research Intern — *November 2019 – May 2020*
  - **Mentors**: Professor Gitakrishnan Ramadurai, Professor Balaraman Ravindran
  - **Traffic Optimisation and License Plate Recognition**: Developed a real-time Computer Vision based system, deployed to city-wide CCTV cameras to optimize traffic lights based on predicted traffic.
    Achieved 86% accuracy in identifying license plates of lawbreaking vehicles.

Research: Posters, Publications and Talks

- **Risk Analysis and Review Engine (RARE)**: Digital Poster presented at the Goldman Sachs Internal Engineering Conference, 2022.
- **A Low-Cost Solution to the Open Images Instance Segmentation Challenge**: Poster accepted at International Conference on Computer Vision (ICCV), 2019. Poster here.
- **Transfer Learning for International Crisis Response**: Talk and Presentation at the Challenge Track of Applied Machine Learning Days (AMLD), 2020. Slides here.

Projects and Ventures

- **pharmAssist by That Medical Company**: A novel label and Android App that lets visually impaired people gain health literacy. Reads out easy instructions for pills when the prescription bottle is placed on the phone screen. Connected with Alexa for easy access. Watch the demo!
- **jargone**: A web app that summarizes Terms and Conditions to keep you informed about the data companies collect.
- **Federated Learning for Medical Imaging**: A framework that provides a complete machine learning pipeline to let researchers and end users train any model on medical image data from various servers. Uses YAML files for simple configuration.
- **Facial Recognition Attendance Manager**: Creating a prototype of a model attendance manager using Facial Recognition integrated with Raspberry Pi, Cameras and Firebase requests made by the student.
  Fully funded by SSN College of Engineering.

Technical Achievements

- **Runner Up, Goldman Sachs Hackathon**: 2022
- **Runner Up, Digital Poster, Goldman Sachs Internal Engineering Conference**: 2022
- **Runner Up, Innovation, Goldman Sachs Awards**: 2021
- **Rank 2, Hockey Team Classification Challenge, AIcrowd**: October 2020
- **Rank 2, Transfer Learning for International Crisis Response, DEEP**: Jan 2020
- **Winner, AstraZeneca AI Hackathon**: Jan 2020
- **Rank 1, Round 1 - 3, Food Recognition Challenge, Seerave Foundation**: Dec 2019
- **Rank 34, Open Images Instance Segmentation Challenge**: October 2019
- **Runner Up, Amazon Web Services (AWS) Challenge, AngelHack Global Virtual Hackathon**: July 2019
- **Winner, Indian Sub-Continent, AngelHack Global Virtual Hackathon**: July 2019
- **Finalist, International Youth Math Challenge**: Nov 2018

Scholarships

- **Rank 1, Merit Scholarship, SSN College of Engineering**: 2019-20
- **Merit Scholarship, SSN College of Engineering**: 2017-18

Programming Skills

- **Languages**: Python, SQL, Java, JavaScript, HTML, CSS
- **Frameworks and Technologies**: React, NodeJS, Kubernetes, PyTorch, Langchain, HuggingFace, GCP, AWS, Replicate

Volunteering

- **CodeFemme**: Partnered with over 70 schools in the city to provide best-in-class Python workshops for teachers and class material for high school students.
- **Stanford University**: Section Leader for CS106A, offered during the COVID-19 pandemic, with 10,000 global students participating from around the world.

Blog

I also run a blog with over 70k page views. Find it at rohitmidha23.github.io/blog!