Rohit Midha

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EDUCATION

- **SSN College of Engineering, Anna University**   Tamil Nadu, India
  Bachelor of Engineering in Computer Science and Engineering; GPA: 9.2/10.0   *Aug. 2017 – July 2021*
  University Rank: #10, College Rank: #3

EXPERIENCE

- **Goldman Sachs**

  Engineering Analyst   *August 2021 – Present*

  ○ **Risk Analysis and Review Engine (RARE)**:
    * By automating archaic workflows, RARE lowers costs and improves quality and UX of the review process, thus bringing transparency and effectiveness to a critical risk process.
    * Reduced Review time by a third, from over 6 hours to 2 hours.
    * Introduced RARE Lite in an effort to acquire users who needed only a partial suite of services offered by the platform.
    * Introduced the Management Dashboard to provide high level insights to senior management, based on meta-data collected by the platform.
    * Developed streaming data pipeline to push data to Snowflake using Apache Kafka and Alloy, a proprietary GS software.
    * Streamlined the data flow for calculating a key financial metric reported and spearheaded the initiative to on-board onto Snowflake.
    * Defined SLA for our team's offerings using Prometheus for monitoring our Kubernetes deployments.
    * Setup Grafana Dashboards to visualise some of our SLOs as well as Application Health page to monitor microservices.
    * Developed APIs (Jackson, Java) for CRUD operations as well as for certain UI use-cases.

  Engineering Intern   *Jan 2021– July 2021*

  ○ **Risk Metric Model**: Developed the system architecture for scaling the system. Upgraded the backend to use Java with a Dropwizard server connected to Sybase ASE DB.
  ○ **Risk Analysis and Review Engine (RARE)**:
    * Shadowed users and documented user stories which helped in creating the initial requirements document.
    * Developed the data model following microservice architecture, defining 3 services run on Java, Dropwizard backend.
    * Set up Kubernetes deployments for services with appropriate caching methodologies.
    * Introduced APIs for simplifying complex graph operations that represented Standard Business Hierarchy graphs for deliverables onboarded.

  Summer Analyst   *May 2020 – June 2020*

  ○ **Risk Metrics Inventory UI**: Introduced a UI that acts as a central registry and lets users perform CRUD operations on metrics meta-data, keeping inter-dependencies consistent. Used modular design for components to generate them based on configuration files. Made with React and Redux.

- **CodeFemme**   Chennai, India
  Founder, CTO   *June 2018 – Present*

  ○ **Partner Schools**: Partnered with over 70 schools in the city to provide best in class Python workshops and class material for high school students.
  ○ **Te(a)chTheTeach**: Te(a)chTheTeach is a workshop series aimed at teaching PGT's about Python and it's various Libraries. Taught 100+ CBSE teachers so far.
  ○ **Numpy, Pandas and Neural Nets**: Guest Lecture on the topic "Numpy, Pandas and Neural Nets" at Kendra Vidyalya, Indian Institute of Technology, Madras. 50+ teachers from across the country in attendance.

- **AIcrowd**
  Research Intern   *March 2020 – September 2020*
  - **World Health Organization**: Implemented Recognition models to identify various types of endangered snail species in the wild.
  - **AIcrowd Blitz**: Curated datasets and created baselines for the Mask Recognition Challenge, Food Classification Challenge and Scrambled Text Challenge.
  - **Food Recognition Challenge**: Challenge Organizer for Round 3 of the challenge. Created baselines using mmdetection for Round 3.

- **Indian Institute of Technology, Madras**   Chennai, India
  Research Intern   *November 2019 – May 2020*
  - **Mentors**: Professor Gitakrishnan Ramadurai, Professor Balaraman Ravindran
  - **License Plate Recognition**: Working on a system to recognise license plates from videos obtained from CCTV cameras.
  - **Vehicle Counting**: Developed a real time system that works with large scale data obtained from traffic cameras across the city for vehicle counting to model dynamic traffic flow.

- **Sigmoid**   Bangalore, India
  Data Scientist Intern   *May 2019 – July 2019*
  - **Named Entity Recognition**: Worked on using Conditional Random Fields, Recurrent Neural Networks and Long Short Term Memories for Named Entity Recognition of Medical Drugs. Increased accuracy from 77% to 81%.
  - **Quantum Machine Learning**: Wrote machine learning algorithms optimized to work on a quantum computer such as quantum linear regression and built a quantum Neural Network for Credit Card Fraud Detection.

Research: Posters, Publications and Talks

- **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

- **pharmassist**: A novel label and Android App that lets visually impaired people gain health literacy. Reads out easy instructions for pills when prescription bottle is placed on phone screen. Connected with Alexa for easy access. Video demo here.
- **jargone**: A web app that summarizes Terms and Conditions to keep you informed about the data companies collect from you.
- **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 sources. 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.
- **Other**: The SSNMUN Website, binarify (convert images to binary art.)

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 - AIcrowd**: Jan 2020
- **Winner, AstraZeneca AI Hackathon, IIT Madras**: 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

- **Rank 208 of 6000+ participants, IEEE CIS Fraud Detection Challenge**: October 2019
- **Rank 503 of 9000+ participants, Santander Customer Transaction Prediction** : April 2019
- **Runner Up, MotorQ Hackathon**: March 2019
- **Top 5 Teams, Major League Hacking, Local Hack Day**: Dec 2018
- **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, C, SQL, Java, JavaScript, HTML

- **Frameworks and Technologies**: React, Redux, NodeJS, Kubernetes, Prometheus, PyTorch, FastAI

VOLUNTEERING

- **Google**: Organized the Google AI Explore ML Workshop at SSN College of Engineering.

- **Stanford University**: Section Leader for CS106A, offered during COVID-19 pandemic, with 10,000 global students participating from around the world.