Pranav V Grandhi

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EDUCATION

- **New York University, Courant Institute of Mathematical Sciences** — New York City, NY
  Master of Science in Computer Science — *Aug. 2023 – July. 2025*

- **Birla Institute of Technology and Science** — Hyderabad, India
  Bachelor of Engineering in Computer Science; GPA: (8.47/10.0) — *Aug. 2017 – July. 2022*
  Master of Science in Chemistry; GPA: (8.47/10.0)

EXPERIENCE

- **Microsoft** — Hyderabad, India
  Software Engineer — *July 2022 - August 2023*
  - **Edge Browser - Autofill**: Deployed a unique algorithm to cluster form fields across URLs in a large-scale graph system to improve the automated Autofill form-filling experience, thereby increasing the overall autofill accuracy by 12% in Edge.
  - Scaled the services to handle loads of up to 100,000 requests a second by introducing caching techniques and routing based on regions.
  - Built client-side heuristics to determine various kinds of Date of Birth and Address Fields across forms.
  - Introduced a Cosmos SDK layer to the autofill microservice that introduced compiler-level type-checks and helped developers build new micro-services that interact with the Azure Cosmos DB.

  Software Engineering Intern — *May 2021 - July 2021*
  - **Outlook Threat Intelligence Team**: Developed a Query Translation framework to help ease the process of migrating from ElasticSearch to Azure Kusto. Reduced the load on the current AIR(Automated Investigation and Response), thereby significantly reducing costs

- **Nanyang Technological University** — Singapore
  Research Intern, Under supervision of Prof. Chng Eng Siong — *Jan 2022 - June 2022*
  - **Speech Lab**: Worked on improving currently existing Speaker Diarization Pipelines using Deep Learning. Improved the current baseline models by using new speech encoders to accurately classify different types of background noise and remove unwanted noise segments, reducing the overall error compared to the state-of-the-art models.

- **University of British Columbia** — Vancouver, Canada
  Research Intern, Under the Supervision of Prof. Apurva Narayan — *Aug 2021 - Dec 2021*
  - **Intelligent Data Science Lab**: Worked on using Deep learning in the field of De Novo Molecule Generation. Introduced Self Attention Mechanism in Generative Adversarial Networks(GANs) that improved upon the rewards metric in the generation of new molecules. (See publication below)

- **Spacejoy** — Bengaluru, India
  Machine Learning Intern — *May 2020 - July 2020*
  - **Recommendation Engine**: Designed and implemented an efficient color tagging system by extracting the foreground image and clustering it to extract colors from a large dataset of furniture pictures. This was an integral part of their recommendation engine which I also helped bootstrap.

- **Indira Gandhi Centre for Atomic Research** — Kalpakkam, India
  Research Intern, Under the supervision of Dr. M. L. Jayalal — *May 2019 - July 2019*
  - **Particle Swarm Optimization(PSO) in the Design of Nuclear Reactor Core**: Used PSO to find out the optimum architecture of the control rods in the design of the nuclear reactor core to maximize efficiency. A novel variation of the algorithm was proposed and its applications were discussed in NP-Hard problems and the reactor core.

PUBLICATIONS

IEEE International Conference on Machine Learning and Applications (ICMLA - 2021) Title: Self-Attention Mechanism in GANs for Molecule Generation (Link to the article)

SKILLS

C • C++ • C# • Python • Java • SQL • HTML • Pytorch • Azure CosmosDB • R • Git

LEADERSHIP

Secretary: IEEE Student Branch, BITS Pilani, Hyderabad Campus
Silver Medal: International Award for Young People (Duke of Edinburgh's International Award)