

## EDUCATION

PROGRAM	INSTITUTION	GPA	YEAR	RANK
M.S. & Ph.D. - Computational Science, Engineering & Mathematics	The University of Texas at Austin	3.76/4	2022	-
B.Tech (Hons) & M.Tech - Chemical Eng.	Indian Institute of Technology Madras	8.94/10	2017	2

## PROFESSIONAL EXPERIENCE

- **Applied Scientist, Amazon (Last Mile Science)** *Project: Road network communities* Aug 2022+
  - Built road network communities as a **new geospatial planning unit** for many applications using graph algorithms.
- **Graduate Research Assistant, UT Austin** *Ph.D. Thesis: ML methods - network community detection [Paper]* 2018-22
  - Developed **Super.Complex**, an Auto-ML pipeline with **98% accuracy**, and a **fast RL method** for NP-hard subgraph search.
- **Applied Scientist Intern, Amazon (Last Mile Science)** *Project: Route Planning* Jun - Aug 2021
  - Accurately **forecasted productivity** of delivery routes using **AutoML**, and **selected features** to influence for improvements.
- **Applied Scientist Intern, Amazon (Brands Experience)** *Project: Substitute Product Recommender* Jun - Aug 2020
  - Built **product embeddings** using catalog text and performed **fast neighbor search** for substitute products with **99% Recall**.
- **Cloud Software Engineering Intern, Schlumberger** *Project: Time-Series Operations* Jun - Aug 2019
  - Developed a **Domain Specific Language** in **Scala** for custom calculations on **real-world time series data** on **Google Cloud**.
- **Graduate Assistant, IITM** *Master's Thesis: Human bio-chemical reaction network analysis in autism [Paper]* 2016-17
  - Developed **two pareto-optimization algorithms** and **two metrics** for optimal reaction **network flow distribution**.

## PUBLICATIONS &amp; CONFERENCES

- 6 papers including 3 peer-reviewed journal papers, 8 conferences, with 25 citations and h-index 3. [[Google Scholar](#)]
- **5min Talk: "Super.Complex: ML pipeline for community detection in networks", TACCSTER Symposium** (2019)

## SKILLS

- **Coding:** Python (scikit-learn, nltk, networkx, pandas, pyspark, faiss), C++ (MASA, PETSc), R (tidyverse), Matlab (Statistics & ML, Optimization, ODE Solvers), Scala, Latex, Linux & HPC. **Exposure:** C, Java, C#, Docker, autotools, CI, lcov. [[Github](#)]
- **Courses:** RL, Bayesian Deep Learning, Pattern Recognition, Graph Theory and ML, Statistical Models for Big Data, NLP

## RESEARCH PROJECTS

- **AutoML image clustering with similarity graph embeddings [Code]** (DL, CV & Graph ML) Jan-May 2022
  - Combined image and similarity graph embeddings of 2D projections and clustered them into 3D objects (**97% accuracy**).
- **Hyperspectral image denoising & classification [Code]** (Statistical Methods in Scientific Computing) Mar-May 2018
  - Applied a framework with **one-against-one** and **one-against-all SVMs** for **multi-class** classification with **90% accuracy**.
- **Implementation of ML algorithms for image & speech classification [Code]** (Pattern Recognition) Aug-Dec 2016
  - Built **neural networks**, GMM, HMM, Bayes, k-means and k-nn classifiers for speaker identification and image recognition.

## CO-CURRICULAR ACTIVITIES

- **Founder, Literary Fest 'Saahitya'** (a self-driven initiative, commended by the Director, Dean and Alumni) (Feb - Apr 2016)
  - Formed and lead a **team of 60** across 6 divisions to **organize a literary festival with 30 events** and a **footfall of 1000** in IITM.

VR	Designed <b>spatial augmented reality</b> at Envisage, India's largest student tech show ( <b>2000+ people</b> )
Coding	<b>Windows App(C#): Wardrobe Assistant- outfit suggestions</b> 2016 <i>Microsoft-24hr Code.Fun.Do Hackathon</i>
Robotics	Coded locomotion for <b>autonomous transwheel robot</b> 2013 <b>Asia-Pacific Robot Contest (Robocon)</b>

## AWARDS &amp; HONORS

- **Two-time Professional Development Award** and **Best Poster Award** at **SIAM TX-LA Conference**. 2018-20
- **O'Donnell Fellowship** and **General ISSS Financial Aid Award** by UT Austin towards research. 2017-19
- **KVPY Fellowship** (Dept. of Science and Technology, India) and **C.A. Sastri Endowment Award** (IITM) 2012-17