

Indian Institute of Technology, Madras

LAKSHYA J | EE19B035

EDUCATION

PROGRAM	INSTITUTION	%/CGPA	COMPLETION
B.Tech Electrical Engineering	Indian Institute of Technology Madras	9.08	2023
XII, CBSE	Alpine Public School	96.7	2019
X, ICSE	Cambridge Public School	98.4	2017

SCHOLASTIC ACHIEVEMENTS

- Secured AIR 1700 in JEE Advanced 2019 among 200,000+ candidates
- Secured AIR 1574 in JEE Mains 2019 among 700,000 candidates
- Awarded KVPY Fellowship, conducted by IISc, securing AIR 352
- Secured State Rank 30 in Karnataka CET
- One of the 1000 students awarded the NTSE (National Talent Search Examination) Scholarship in 2017
- One of the 59 candidates to be awarded the URAM Scholarship from Micron India, for the year 2021-2022

RELEVANT COURSEWORK AND SKILLS

- Computer Architecture *
- Convex Optimization *
- Linear Algebra
- Stochastic Control *
- Probability, Statistics and Stochastic Processes
- Multi Armed Bandits
- Object Oriented Programming
- Foundations in Deep Learning
- Computer Organization
- Digital IC Design
- Applied Programming Lab

- **Programming Languages:** C, C++, Python, MATLAB, ARM Assembly, Verilog, CUDA
- **Frameworks & Libraries:** PyTorch, Sci-kit Learn, Pandas, Numpy, OpenCV, TensorFlow, Electric, LTSpice, Electric
- **Programming Paradigms:** Object Oriented Programming, Functional Programming, Assembly Programming, GPU Programming
- **Tools Used:** Git, LaTeX, Jupyter Notebook

* - Ongoing Courses

PROFESSIONAL EXPERIENCE

- Research and Development Intern – Adobe Research** May 2022 - July 2022
 - Worked on development of an end to end pipeline for revisualization of infographics in documents
 - Created unique dataset of PowerPoint Presentations
 - Reflowed infographics using various transformer and GAN models trained over our dataset
- ML Intern – Okarango** May 2021 - June 2021
 - Used time series models (ARIMA, SARIMAX, SES) to perform analysis and forecasting on current stock data using Python's statsmodels libraries
 - Produced various visualizations for stock market forecasting
- Teaching Assistant - IIT Madras** Feb 2022 - May 2022
 - Conducted lab sessions for students assigned to me for an Introductory C Programming Course (EE1102)
 - Cleared doubts, set up assignments and aided in correction of exam papers

PROJECTS

- Resource Allocation in Backhaul Networks (Prof. R Manivasakan, IIT Madras)** July 2021 - Present
 - DRL based Resource Allocation in an Integrated Access and Backhaul Network
 - Creating an environment for Multi Agent Reinforcement Learning simulations
 - Optimizing action space as it increases exponentially with the number of subchannels and users
- GPM - GPU Persistent Memory (Prof. Arkaprava Basu, IISc Bangalore)** Dec 2021 - Present
 - Project on enabling faster KVS(Key Value Store) Access using NVMs and techniques available from current implementations of storage engines
 - Writing benchmarks suites to test capabilities of implemented and current methods
- RL-based Algorithm for Input-Queued Switches in Heavy-Traffic (Prof. Siva Theja, Georgia Tech, USA)** Dec 2021 - Jun 2022
 - Project based on applying reinforcement learning for optimizing average queue length in heavily loaded switches
 - Wrote code for simulating four different Q Learning algorithms with different behavioral policies
 - Understanding effects of step sizes and further implementations using deep neural networks
- Shell Hackathon, Efficient Windmill Placement** October 2020
 - Used Genetic Algorithm to create an optimized distribution of wind mills with given constraints to generate maximum power
- Digital IC Design, Course Project** Aug 2021 - Nov 2021
 - Designed a Carry Save Look Ahead Adder in Electric so that area of the adder created using the transistors is optimized
 - Simulated it using LTSpice to find various delay parameters

POSITIONS OF RESPONSIBILITY

- Vox Populi Vox Insti (Podcast Host, 2021-2022; Podcast Producer 2020-2021)**
 - Hosted our in-house podcast available on all major streaming platforms
 - Led a team of three producers through ideation, invitation, creation, editing and posting process
 - Increased audience diversity of our podcast

Coordinator, Internship Team (2020-2021)

- Responsible for successfully conducting internship processes of over 1000 students
- Worked closely with HRs of various organizations to ensure smooth interview and offer release processes

OTHER HIGHLIGHTS

- **Saathi Student Mentor** - Volunteered to ensure smooth introduction to freshers to life at IITM. Awarded Star Mentor as a recognition of my efforts
- **IITM CLIC Program Cohort Mentee** - One of the 45 students in the 2019 batch of IITM selected to be mentored by an alumnus over the course of a semester
- Part of the NSO (National Sports Organization) **Athletics** team at IITM
- Carnatic Music - Junior Level Certification completed