

EDUCATION

Program	Institution	CGPA/%	Year
B. Tech in Computer Science & Eng.	Indian Institute of Technology, Madras	8.21/10	2021
XII (HSC)	Divyapath Campus, Ahmedabad	91.4%	2017
X (SSC)	Asia English School, Ahmedabad	87.8%	2015
Scholastic Achievements	<ul style="list-style-type: none"> ● National Winners of Microsoft CodeFunDo++ Challenge 2018, with a cash prize of Rs. 500,000 plus \$5000 Azure Cloud Credits & AI for Earth Grant for the UAVs for Disaster Management project ● Secured All India Rank 158 in JEE-Advanced '17 among 150k candidates ● Ranked amongst the top 1% nationally in National Standard Examination in Chemistry (NSEC)'16 ● Received Kishore Vaigyanik Protsahan Yojna (KVPY) 2016 fellowship 		

WORK EXPERIENCE

Disney+ Hotstar Software Engineering Intern April'20 – June'20	<ul style="list-style-type: none"> ● Enhanced monitoring & alerting of events, by integrating Amplitude & Prometheus platforms ● Improved granularity for setting alerts from hourly to 5 min & increased limitations of 10 metrics to 300 metrics, with an error rate of ~5% by deployment of the developed Python services ● Designed a generic streaming pipeline to process raw events using Apache Spark & Kafka ● Defined a simple interface for Playable Ads & implemented on a demo Android app + advertisement
Google Summer of Code ArduPilot.org May'19 – Aug'19	Mentors- <i>Andrew Tridgell, Peter Barker</i> <ul style="list-style-type: none"> ● Developed the ArduPilot-AirSim integration, using BSD sockets for the firmware-simulator interface ● Wrote a minimalistic JSON parser in C++ for sub-millisecond processing of packets ● Ensured cross-platform integration and tested on Windows, Linux & macOS systems

PROJECTS

UAVs for Disaster Management Center for Innovation, IITM Feb'18 – Dec'19	<i>Swarm of Autonomous Drones equipped with Computer Vision & AI for locating people in disasters</i> <ul style="list-style-type: none"> ● Tested 3D Obstacle Avoidance Algorithms using Stereo & Depth Cameras in simulations, hardware ● Integrated Path-Planning algorithms to achieve autonomous surveillance of a large region ● Achieved live-video transmission over WiFi & GSM network using FFmpeg and Azure Media Services ● Among the Top 10 winners of India Innovation Growth Programme (IIGP) 2.0 University Challenge 2019 with an award prize of Rs. 1,000,000
Avishkar Hyperloop Center for Innovation, IITM Dec'17 – Sep'18	<i>Student team spearheading the country's attempt at SpaceX Hyperloop Pod competition</i> <ul style="list-style-type: none"> ● Developed the control systems architecture, optimizing the no. of on-board computers & sensors ● Implemented and tested different communication protocols such as LCM² over UDP ● Identified several critical single-point-of-failures, resulting in inclusion of pneumatic friction braking
Map-Reduce on GPU GPU Programming Course July'20	<ul style="list-style-type: none"> ● Implemented KMeans, Monte Carlo Pi estimation following Map-Reduce framework on GPU ● Wrote a generic Map-Reduce template with disjoint input & output memory regions for coalesced access, along with individual customization for better performance ● Benchmarked the programs against sequential CPU and OpenMP parallelized implementations
Twitter Web-App Cloud Computing Course July'20	<ul style="list-style-type: none"> ● Wrote a Kafka + Spark Streaming program to fetch tweets and publish as Kafka topics, with Spark Streaming + MLib for performing analysis such as WordCount, Frequent Pattern Mining ● Deployed the web-app on multiple AWS instances with Flask-based interface for viewing results
MiniJava to MIPS Compiler Design Course Aug'19 – Nov'19	<ul style="list-style-type: none"> ● A 5-pass compiler implemented in Java, translating a MiniJava program to increasingly lower abstraction forms, finally resulting in MIPS assembly language ● It also performed type-checking, intermediate code generation & optimized register-allocation

COURSEWORK & SKILLS

Design & Analysis of Algorithms	Database Management*	Cloud Computing
Operating Systems	Systems Eng. for Deep Learning*	GPU Programming
Blockchain and Distributed Ledgers*	Pattern Recognition & Machine Learning	CNNs ¹ for Visual Recognition**
SKILLS	<ul style="list-style-type: none"> ● Programming: C, C++, Python, Java, Shell Scripting, JS, Go, Scala, OCaml, x86 Assembly ● Softwares: Git, Docker, Kubernetes, Apache Hadoop, Spark, Kafka, Flink, Robot Operating System ● Others: AWS, TensorFlow, OpenCV, CUDA, Thrust, Travis CI, NumPy, Flask 	

EXTRA-CURRICULAR ACTIVITIES

Open-Source Contributor	<ul style="list-style-type: none"> ● Contributed several new features, bug-fixes, unit-testing, CI/CD³ & documentation. Notable projects- <ul style="list-style-type: none"> ○ AirSim: Cross-platform, visually realistic robotics simulator based on Unreal Engine & Unity ○ ArduPilot: Advanced autopilot software system. Maintainer of the AP-AirSim integration
Miscellaneous	<ul style="list-style-type: none"> ● Part of the 7th Inter IIT-Tech Meet IITM contingent for the Pluto-X Drone Challenge ● Volunteer at Exebit 2018, CSE Dept fest, helped organize an introductory workshop on Python ● Associate Manager at Entrepreneurship Cell, Conceptualized and organized Inspirit