

SIDDHARTHA MISHRA (MS, ARTIFICIAL INTELLIGENCE, IIT DHANBAD)

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WORK EXPERIENCE

IIT Delhi - Winter Schools on Data Systems

Delhi, India

[Link](#)

Dec 2024 - Dec 2024

Attended a bootcamp on **scalable systems for Big Data, Data Science and AI**. It includes distributed data processing with map reduce, fault tolerance. Dataflow system for batch processing and stream processing - **Spark, Flink** and query optimization. **Cyclic data flows** using Popper and **cross platform data processing** using Wayang.

Samsung Research

Noida, India

Staff Computer Vision Researcher (AR Core Team)

Sep 2023 - Present

Role: Working on 'Generative Image dynamics' - generating a seamlessly looping video from a single image in 3 seconds, the best existing time is around 17 seconds. Allowing users to **realistically interact with the objects in real pictures** by interpreting the spectral volumes as image-space modal bases, which approximate object dynamics.

This involves **quantization, pruning and distillation** to run the solution **on-device (mobile phones)** for heavier distillation models.

Worked on Augmented Reality using ARCore and computer vision techniques. It includes height detection, dimension detection, live stickers, emoji, doodle, touchless doodling.

Extensive research of existing computer vision techniques and how to make better user experience like text to 3-D generation.

Tech Stack: ARCore, Computer Vision, LLMs, 3-D modeling, graphics, Android, Python, Java, Kotlin, C++, openCV, Tensorflow, PyTorch, MediaPipe, Matplotlib, numpy, pandas, Transformers, diffusion models, object dynamics, 3-D Splatting, temporal flow, spectral volume, oscillatory 3-D motion, Autoencoders, GANs, quantization, pruning, distillation.

Leadership: End to end ownership of development, leading a team of 15 developers.

Impact: New researches like turning still images into seamlessly looping videos and allowing users to interact with the objects in real images and accordingly producing realistic simulated dynamics.

Doodling in air with exact depth, so focus is to bring something that does not exist.

Qualcomm

Hyderabad, India

Sr. Software Engineer

Mar 2021 - Aug 2023

Team - 2 (AI-ML IoT Framework Team)

Mar 2023 - Aug 2023

Role: Writing plugins for Object Detection and tracking(different colored bounding boxes for different object along with trajectory prediction)

Tech Stack: GStreamer, TensorFlow Lite, ByteTrack, C++, C

Leadership: End to end ownership of development, mentoring interns and other developers

Team - 1 (Wearables IoT Tech Team)

Mar 2021 - Feb 2023

Role: HAL development (Display, wrist tilt, brightness, orientation), Android Apps, VTS (Unit testing), Automation script to analyze logs.

Applying ML techniques on various sensor data like Tilt detection, automated alarm for better sleep, cardiovascular health monitoring for better user experience

Tech Stack: C++, C, JAVA, Python, HIDL, Android Architecture, ML on sensor data.

Impact: Increased backup of watches around 40% with dual processor concepts and offloading display and controls to secondary processor.

Tilt variation handling and customizing sleep duration with automated alarm by analyzing the various sleep data, using ML principles giving a totally new experience.

Leadership: End to end ownership of FRs, mentoring interns and supporting test teams.

Amdocs

Pune, India

Software Engineer (Billing & RTB Teams)

Aug 2020 - Feb 2021

Role: API development, Bug resolving, Fraud detection, revenue forecasting and optimizations.

Tech Stack: JAVA, Python, Mockito, Postman, MySQL, Machine Learning, NLP

Impact: Created an environment of bug resolution within 24hrs

Guest Lecturer & Judging the Hackathons (GLA University & others)

Remote

Role: Competitive Coding and Data Science mentoring programs

Sept 2020 - Present

Impact: Shaping the future of thousands of students every year and bridging the gap between institutions and the tech industry.

Siemens Healthineers (Intern - [Link](#))**Role:** Cholesterol prediction through eyes images using machine learning and image processing**Tech Stack:** Machine learning, Image processing, Python**Impact:** No blistering, cholesterol prediction just by one click in one second**Remote***July 2019 - Feb 2020***Digiimento Education Pvt. Ltd (Instructor)****Role:** Mentoring and content creation for GATE CSE**Delhi, India***Dec 2017 - June 2018***Wheelseye Technology (Full Stack Developer)****Role:** Developed API's for live tracking of trucks and notifications using Java, JavaScript, Python.

Suggesting dynamic routes based on real time traffic analysis, driver behavior and fuel efficiency monitoring and predicting shipping needs using Machine Learning.

Gurgaon, India*Sept 2017 - Dec 2017***Scrum Technology (Full Stack Developer)****Role:** Website development for various clients using Java, JavaScript, HTML and CSS .

Applied predictive caching to apply pre-cache for most likely visited elements for faster loading time and improved responsiveness using ML techniques.

Offer real-time machine translation of website content to cater to a wider audience and improve global reach using ML.

Delhi, India*June 2016 - Aug 2017***IIT BHU (Intern - [Link](#))****Role:** Proxy less Internet access over LAN/WAN**Varanasi, India***June 2015 - July 2015***EDUCATION****MTech Research on Medical Image Processing Using Cycle GAN ([Link](#))**

M.Tech	Artificial Intelligence	IIT(ISM) Dhanbad	2018-2020
B.Tech	CSE	KNIT Sultanpur	2012-2016
Intermediate	PCM - Mathematics	CBSE, Varanasi	2010-2011
High School	PCM - Mathematics	CBSE, Varanasi	2008-2009

Skills:

Artificial Intelligence, Deep Learning, Machine Learning, Image processing, Computer Vision, Natural Language Processing (NLP), Augmented Reality, ARCore, Large Language Models (LLMs), LangChain, Python, Numpy, Pandas, Matplotlib, SQL, Android, Java, C++, C, VCS (Git, Perforce), System Design, Leadership, Javascript, HTML, CSS, Hardware Abstraction Layer, Linux, Shell Scripting, PyTorch, TensorFlow, Internet of Things (IoT), Agentic AI, Quantization, Pruning, Distillation.

ACHIEVEMENTS & HACKATHONS ([GitHub](#) links attached)**Top Ranker** - GATE (4times)**Scientist Positions** - ISRO, BARC, NIELIT, DRDO, BDL, Cabinet Secretariat**Japan Hackathon 2021** - 2nd Prize (**Represented India**)**IMLEAP** (Siemens Healthineers Hack) - 2nd Prize**Finalist** - Mercedes Benz Hackathon & Techgium (L&T Infotech) Hackathon, Code Gladiator Coding Comp.**Sports Secretary** 2015- 2016, **Captain** of IIT Dhanbad Cricket Team, Represented in **Inter IIT** (2018, 2019)**Head Student chapters** (IEI, CSI, ISTE, DrishtiCone)**Lead Organizer** of Sports & Technical fest (KNIT Sln)**Ramanujan Mathematics Olympiad** - 3rd Prize (2010)