



Aryan Lath

Roll No.:210150007

B.Tech - Data Science and Artificial Intelligence

Minor in Computer Science and Engineering

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. Major	Indian Institute of Technology, Guwahati	9.10 (Current)	2021-Present
Senior Secondary	CBSE Board	90.8%	2021
Secondary	ICSE Board	91.8%	2019

EXPERIENCE

• Undergraduate ML Research Intern

Oct 2022 - Jan 2023

Mr. Tushar Kataria, Graduate Research Assistant, University of Utah

- Converting **HE** stained tissue images of high resolution to **IHC** images with HER2 markers to detect **breast cancer**.
- Improving and analyzing the alignment of **BCI** dataset using **Image Registration** techniques to increase the accuracy.
- Used **Cycle GAN** as a baseline to generate IHC images from HE stained tissues and also exploring on other color spaces like **HED**.

PROJECTS

• CloudPhysician Vital Extraction Challenge

Feb 2023

Inter-IIT Tech Meet, 2023

Github Link

- Extracting important vitals like HR, SPO2, etc. from CCTV images of ICU monitors. Final Report Link
- Developed **Area Union Ensembling** Model using **Corner Regression** and **UNet++** to crop the ICU monitor screens.
- Implemented **Weighted Box Fusion** using **YOLOv5** and **fine tuned Keras OCR** to localize the vital numbers.
- Used **Parseq OCR** to read the vitals and designed a novel architecture **CRABB-NET** to classify the vital numbers to its labels.

• JOSAA Analysis Portal

March. 2023

Debanga Raj Neong, Assistant Professor, IIT Guwahati

Github Link

- Built a **Web Portal** which shows analysis of Opening Rank and Closing rank of various **IITs**.
- Scraped data from the **JOSAA ORCR** website and created a **MySQL** database after preprocessing and cleaning it.
- Added **rank and college predictors** along with some dynamic plots using **PHP** and **Chart.js**.

• Image Colorization using GAN

Oct 2022

Coding Club IITG

Github Link

- Colourising gray-scale images using a **GAN** based framework implemented in pytorch
- Implementation was based on Image-to-Image Translation with Conditional Adversarial Networks research paper.
- Constructed a generator based on U-Net Architecture and used patch discriminator.

ACHIEVEMENTS

- **Amazon ML Challenge 2023** - Achieved a rank of **40** among 5000+ participants from all over India.
- **Google ML Bootcamp 2022** - Among the **top 55** participants from all over India to get selected and graduate.
- **Convolve by CISCO** - Among the **top 10** teams in the **PAN IIT-IIM ML Competition**.
- **Google Kaggle Competition** - Achieved **14** rank among **113** participants in Email Spam Classification by **Google**.
- **Beyond Analysis ML Hackathon** - Achieved a team rank **4** among **300** teams conducted by **Decimal Point Analytics**.
- **Joint Entrance Examination 2021(Mains)** - Secured an of **All India Rank 392** among **9,39,000** students.
- **Joint Entrance Examination 2021(Advanced)**- Secured an All India Rank of **1605** among **1,50,000** students.
- **WBJEE 2021** - Secured All India Rank **95** among **92,685** students.
- **Silverzone IOM** - Secured **All India Rank 1** and **World Rank 4** in the **Mathematics Olympiad** in 2013.
- **Tensorflow Developer Certificate** - Successfully passed the Tensorflow Developer Certification Exam by **Tensorflow**.

TECHNICAL SKILLS

- **Programming languages** : C, C++, Python, R*
- **Tools/Frameworks** : Pandas, Sklearn, Pytorch, Flask*
- **DataBase Management** : MySQL*

- **Web Technologies** : HTML, CSS, PHP, JS*

- **Operating Systems** : Linux*

* Elementary proficiency

KEY COURSES TAKEN

- Data Structures and Algorithms, Database Management Systems, Introduction to Data Science, Probability Theory and Random Processes, Reinforcement Learning, Introduction to Optimization, Introduction to AI, Introductory Macroeconomics, Deep Learning Specialization Course Coursera.

* Ongoing

POSITIONS OF RESPONSIBILITY

- **Secretary**, Coding Club, IIT Guwahati
- **Branch Representative**, Data Science and Artificial Intelligence, IIT Guwahati
- **Member**, IITG.ai, IIT Guwahati
- **Coordinator**, Coding Club, IIT Guwahati

April 2023 - Ongoing

July 2022 - Ongoing

Sept 2022 - March 2023

June 2022 - March 2023