

PRADYUN DEVARAKONDA

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https://pradyunuydarp.github.io/Pradyunuydarp in Pradyun Devarakonda Pradyunuydarp

EDUCATION

iMTech (BTech + MTech) in Computer Science and Engineering

International Institute of Information Technology, Bangalore

October 2022 – July 2027

Bengaluru, India

- CGPA: 3.67/4.0 (as of 5 semesters)

EXPERIENCE

Summer Research Project Intern

iiitb

June 2024 – August 2024

Bengaluru, India

- This internship gave me exposure to theoretical research in algorithms and graph theory where we worked on an graph problem and produced 4+ results accepted to CALDAM 2025.

PROJECTS

ColStore

Data Modeling, SQL, C++, ExpressJS, OO-Design, Data Warehousing, XML

February 2025 – May 2025

https://github.com/pradyunuydarp/Column-Store-DBMS.git

- Engineered a Columnar Data Storage system (DB+DBMS) with an OO Design.
- Integrated a DDL, DML, and a DQL. Future plans include devising APIs and advanced features like indexing and bitmap-indexing ideal for OLAP systems.

LinguaLeap

ReactJS, NodeJS, ExpressJS, MongoDB, Docker, Redis, nginx, GenAI APIs

November 2024 – May 2025

https://github.com/Praninara/LinguaLeap.git

Deployed at: https://praninara.github.io/LinguaLeap

- A gamified language learning platform. As of March 2025, it includes 3 games that support 5 languages including single-player games, and multiplayer games designed with socket.io.
- Ensured scalability by dockerizing the application, using load balancing and distributed systems tools(nginx, Redis), and analytics tools (Prometheus and Grafana).
- LinguaLeap can work with 3000 users at 1500 RPS and 150ms latency.

Twitchalytics++

Visual Analytics, Data Analytics, Machine Learning, Python, LaTeX

November 2024 – December 2024

https://github.com/pradyunuydarp/Twitchalytics-plus-plus.git

- Comprehensively analyzed and linked datasets containing Twitch streamer and game data from August 2019 to August 2020.
- Created visualizations, trained machine learning models, and produced a visual analytics workflow with over 3 feedback loops, following the Visual Analytics Framework proposed by Keim et al. (2008).

Parallelism-driven Library Management System

C, Linux, POSIX

April 2024– May 2024

https://github.com/pradyunuydarp/ParalleLMS.git

- A high-performance Library Management System in C.
- Leveraged POSIX-compliant thread pooling, mutex locks, and a TCP/IP socket-based client-server model for efficient concurrent operations.
- Brought down latency by 67% through efficient multi-threaded architecture.

SKILLS

Programming

C++ Java Python C MySQL
HTML CSS JavaScript OOP XML

Technologies & Frameworks

ReactJS LaTeX Git GitHub Jupyter

Technical

Data Structures Algorithms
Data Modeling Software Engineering
Database Systems Operating Systems
Software Development Machine Learning

Learning & Coursework

Reinforcement Learning Docker NodeJS
ExpressJS TypeScript Tailwind Redis

PUBLICATIONS

Parameterized Complexity of Coupon Coloring of Graphs

Algorithms and Graph Theory

October 2024 – November 2024

Ashok et al. 2025

- The paper was accepted to CALDAM 2025(11th Annual International Conference on Algorithms and Discrete Applied Mathematics).
- The Coupon Coloring problem is an NP Complete problem that finds applications in network science and coding theory.

MENTORSHIP

Linear Algebra Teaching Assistant

iiitb

January 2025 – May 2025

ACHIEVEMENTS

Dean's Merit List

August 2023 – July 2024

Part of the Dean's Merit List for the academic year 2023-24.

Class 12

June 2021 – July 2022

Scored 988/1000 academically and 99.07%ile in JEE Mains 2022.

EXTRA-CURRICULAR SKILLS

Garageband Music Production Poetry
Writing Audio Editing Presentation