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Mayank P M

Software Engineer

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About: A forward-thinking technologist passionate about high-tech innovations, leveraging cutting-edge trends to create impactful solutions and drive technological advancement.

Experience

Full Stack Web Developer (Intern) **Feb 2024 — Jul 2024**
Pyramid Developers Bengaluru

- Designed web applications using NextJS and Firebase, achieving a 20% improvement in load times, enhancing user engagement by 15% through mobile-first responsive designs, and ensuring robust security with role-based access controls.

Teaching Assistant (Part-Time) **Aug 2024 — Dec 2024**
PES University Bengaluru

- Conducted 20+ lab sessions for Database Management Systems, assisting 50+ students in debugging programs and facilitating final project vivas, leading to a 95% project completion rate and improved student understanding.
- Updated course materials and demonstrated practical DBMS applications using MySQL, Workbench, and Python, increasing lab engagement by 25%.

Research

Accepted for ICICIP Oman Conference 2025

- Objective: To understand migratory birds' movement patterns and forecast their locations to mitigate airport bird strikes.
- Implementation: Developed predictive models using machine learning and remote sensing technologies, supplemented with data from eBird and Audubon.

Projects

Sanskrit Language Model Development **May 2024 —**

- Developed and implemented web scraping scripts using BeautifulSoup, requests, and Selenium to gather Sanskrit-English vocabulary data. Managed data storage in MongoDB and processed it for training, validation, and testing.
- Utilized advanced NLP models (e.g., 'microsoft/phi-2') for text summarization and translation, with optimizations like 4-bit quantization. Evaluated model performance using ROUGE scores, achieving significant improvements in summarization accuracy.

Kolmogorov Arnold Networks for XOR Gate Realization **June 2024 —**

- Investigated the potential of Kolmogorov Arnold Networks (KAN) in solving the XOR problem by demonstrating that a single neuron setup was inadequate, and transitioned to a (2, 1, 1) structure for improved performance.
- Leveraged B-splines in KAN to introduce necessary non-linearity, adjusting splines using a least squares solution to enhance network performance and interpretability. Achieved accurate XOR problem resolution, validating the practical viability of KAN over traditional MLPs.

Education

Bachelor of Technology, CSE - PES University **Sep 2021 —**
PUC - RVPU College, 95% in 2nd PUC **2019 — 2021**
CBSE - Sri Kumaran Children's Academy, 93% in 10th grade **2014 — 2019**
ICSE - Clarence Public School

Skills

Backend Development	Django, Firebase, Apache Kafka, Apache Spark, Hadoop, HDFS
DevOps and Infrastructure	Linux, Docker, Kubernetes, Jenkins, Bash
Programming Languages	Python, JavaScript, R, C++
Additional Skills	Prompt Engineering, Deep Learning with Neural Networks, Mathematics

Achievements

2023 Won the PC AI category in AMD's pervasive AI contest on Hackster.io, among 1500+ teams, securing free Ryzen AI chip.

2022 Reached Cohort 5 - Learning Track by Cisco thingQbator, a platform that encourages and provides funding to Startups and gained more traction and support from E-Cell in college.
Placed 11th among hundreds of participants in the Open-Source Competition - Hacknight organized by ACM PESUECC.

2021 Co-founded a club named HoPES - Student Media Club, achieving significant successes in and outside college through various events and initiatives.