PRAJWAL S VENKATESHMURTHY

✉ psomendyapanahallive@hawk.iit.edu | ☎ 773-789-1423 | ⌂ Chicago, IL 60616
🌐 www.prajwalsv.dev | in linkedin.com/in/prajwal-s-venkatesh | ⌂ github.com/prajwal-s-venkatesh

EDUCATION

Illinois Institute of Technology   **Chicago, IL**
Master of Computer Science, **GPA: 4.00/4.00**   *01/2023 - 12/2024*
Related Coursework: Advanced Database Organization, Computer Networks, Big Data Technologies

Visvesvaraya Technological University   **India**
Bachelor of Information Science & Engineering, **Cumulative GPA: 3.23/4.00**   *06/2015 - 06/2019*

RESEARCH EXPERIENCE

Graduate Student Researcher (RES-MATCH Fall 2023)   **Chicago, IL**
Illinois Institute of Technology   *09/2023-12/2023*

- Spearheaded overhaul of CODES/ROSS packet-level simulator, engineering virtual router functions to enable customized C++ execution during routing for **improved programmability and determinism** — (*Distributed Computation for Light Propagation Modeling*).
- Integrated a Python interpreter into CODES/ROSS simulator to coordinate scripting with underlying network models written in C, **expanding system's distributed modeling capabilities** to photonics simulations and **achieving 40% speedups**.
- Implemented a bi-directional Python state synchronization pipeline realizing less than **100 ms** coordination latencies between scripts and C++. Reduced statistical divergence by **350%** through calibrated transport parameters.

WORK EXPERIENCE

Certa   **India (Remote)**
Mid Frontend Engineer   *03/2022-11/2022*

- Led the migration of the code-base from React v16 to v18, alongside an upgrade of React Query from v2 to v4, **culminating in a 10% enhancement in application responsiveness** and **a 30% decrease in load times**. — (*Webpack, React-Query, React Router*)
- Spearheaded the implementation of in-house tools and **enhanced test coverage for frontend components from 50% to 90%**, leading to **almost 70% reduction in post-release defects** and enhanced overall product stability. — (*Bash, Jest, RTL, Cypress*)
- Architected and implemented a proprietary stack-based design system, skillfully integrating elements from Ant Design to streamline the UI/UX development process and enhance interface consistency across the platform. This initiative **resulted in a 35% improvement in user experience scores** and **accelerated feature deployment by 25%**. — (*AntD, Custom Stack Design System, Styled Components*)
- Employed modern technologies to **optimize the software performance by 40%**, resulting in **a 50% increase in user engagement due to enhanced UI/UX**. Additionally, developed in-house scripts that enhanced developer productivity by nearly 50%.

Snapwiz Edutech India (acquired by GoGuardian)   **India (Hybrid)**
Software Engineer   *08/2019-03/2022*

- **Implemented advanced performance optimization techniques**, including front-end bundle optimization and route splitting, **resulting in a remarkable 50% reduction in both application load time and bundle size**. — (*Babel, CRA5, react-app-rewired*)
- Played a pivotal role in the development of critical product features, including a sophisticated subscription module and playlist module, **contributing to the product's functionality and user experience**. — (*Redux & Redux-Saga, Formik, Styled Components*)
- **Collaborated** with stakeholders from Design & Product to **streamline requirements**, ensuring **alignment and efficiency** of project.
- Leveraged expertise in JavaScript, Typescript, React.js, Node.js, Express.js, Jenkins, Elastic Search, SQL, MongoDB and REST API to create custom frontend & backend integrations that **met unique project requirements** and exceeded customer expectations & **elevated code quality** by implementing rigorous unit testing practices, **resulting in a 20% increase in code coverage**.

PROJECTS

- **Database Manager** — A comprehensive data management system encompassing a Storage Manager for pagelevel operations, a Buffer Manager with LRU and FIFO caching strategies, and a Record Manager for table based CRUD operations and schema handling.
- **Neural Image Captioner** — Implemented a Neural Image Caption Generation model with Visual Attention using PyTorch, leveraging the COCO dataset. The model utilizes attention mechanisms on pre-trained components to generate concise image captions.

SKILLS

Languages: C, C++, Python, Java, Go, SQL, JavaScript (ES6+), TypeScript, Node.js, PHP, Shell Scripting, HTML5, CSS, Android
Frameworks & Tools: React.js, Vue.js, AngularJs, Next.js, Express.js, Webpack, Jest, Cypress, GraphQL, PyTorch, REST, IOT
Backend & Database: MySQL, PostgreSQL, Nginx, Redis, MongoDB, Hadoop Ecosystem (MapReduce, Pig, Hive), Apache Kafka
Cloud, DevOps & Version Control: Linux, AWS Cloud, Docker, Kubernetes, Git, Github, Jenkins, CI/CD pipelines
Systems & Design: Data Structures & Algorithms, Distributed Systems, Microservices Architecture, Debugging Techniques, Performance Analysis, Architectural Patterns, API Design & Integration, Concurrency & Parallelism, DevOps, SOLID Principles
Soft Skills: Effective Communication, Collaborative Teamwork, Adaptability, Leadership, Growth Mindset, Innovative Problem Solving