Pratyush Kumar

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Education

The Pennsylvania State University - University Park, PA (3.6/4.0) Aug 2025 - May 2027
Master of Science (MS), Computer Science

Vellore Institute of Technology - Vellore, India (3.5/4.0) Jul 2019 - May 2023
Bachelor of Technology (B.Tech) , Computer Science and Engineering

Experience

Graduate Learning Assistant Aug 2025 – Dec 2025
- Guide 30+ students through **software debugging** workflows in C++, specifically focusing on problem-solving skills
- **Enhanced** students' algorithmic proficiency and programming concepts by facilitating weekly lab sessions and providing real-time debugging support

Software Engineer
Enphase Energy – Bangalore, India Jan 2023 – Jul 2025
- Engineered scalable REST **API** for **MVC based** full-stack cloud platform (Ruby on Rails) serving 5,500+ users, ensuring high availability for critical business operations
- Operated within an **Agile** team to build end-to-end **automation scripts** (Selenium/Java), reducing manual testing time by **50%** and streamlining the CI/CD pipeline, reducing troubleshooting time by **75%**
- Helped in the expansion of **projects** across LATAM and European markets by collaboration with cross-functional teams, demonstrating efficient **communication skills** and **team collaboration (Jira)**
- Demonstrated **organizational skills** by reducing onboarding ramp-up time of new engineers by 50% and mentored four new junior engineers

Full Stack Developer Intern
Acies Consulting LLP, Mumbai, India Aug 2021 – Jan 2022
- Enhanced platform **(Django)** interoperability by developing pluggable **back-end connectors**, empowering users to select custom database targets (**MySQL, PostgreSQL, Redis, JSON**) for their data workflows
- Developed interactive **web components** (JavaScript, AJAX, jQuery, HTML) to improve the **front-end (UX)** of financial workflows, reducing client setup time from 3 days to 30 minutes

Projects

Distributed MapReduce Compute Framework
- Architected a distributed computing system deployed on **AWS EC2 (Linux)**, utilizing **cloud technologies** to scale data processing tasks efficiently
- Wrote **Python** scripts to automate node deployment and **troubleshoot** network failures, demonstrating strong **DevOps** capabilities

InstructBLIP Optimization for Image Captioning
- Applied optimizations to an AI model (Vicuna-7B) to improve accuracy by 8x, demonstrating the ability to leverage **new technologies** to drive business value
- Fine-tuned the Vicuna-7B machine learning model using **discrete** decoding logic adjustments to solve repetition issues, validating performance against the Flickr8k dataset

Next.js Component-Based Portfolio
- Built a high-performance web application using **React.js/Next.js frontend**, optimizing for **User Experience (UX)** and accessibility—key priorities for Nordstrom's customer-facing channels
- **Reduced CLS by 40%** by implementing hydration-safe animation strategies and pre-computed layout boundaries, enhancing SEO and user experience

Technical Skills

Languages: C++, Java, Python, SQL, NoSQL, JavaScript/TypeScript, Ruby
Backend: MySQL, Node.js, AWS (EC2/Cloud), MongoDB, REST APIs, Data Structures, Algorithms
Tools: Visual Studio, Linux, Eclipse, Git, PowerPoint, Word, Selenium, Postman, Jenkins, RSpec