

# Pratyush Kumar

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## Education

<b>The Pennsylvania State University - University Park, PA</b> <i>Master of Science (MS), Computer Science</i>	Aug 2025 - May 2027
<b>Vellore Institute of Technology - Vellore, India</b> <i>Bachelor of Technology (B.Tech), Computer Science and Engineering</i>	Jul 2019 - May 2023

## Experience

### Software Engineer (previously Software Engineering Intern)

Enphase Energy – Bangalore, India	Jan 2023 – Jul 2025
<ul style="list-style-type: none"><li>Developed and scaled <b>RESTful Rails backend services</b> used by <b>5000 daily active users (internal + customers)</b>, improving cross-service data consistency and reducing integration failures by <b>25%</b></li></ul>	
<ul style="list-style-type: none"><li>Architected a <b>Selenium-based UI regression automation suite</b>, reducing manual QA effort by <b>50%</b> accelerating release readiness</li></ul>	
<ul style="list-style-type: none"><li>Automated TestRail reporting workflows using <b>Python + API integration</b>, reducing stakeholder reporting time from <b>~1 hour to less than 5 minutes</b></li></ul>	
<ul style="list-style-type: none"><li>Conducted <b>API contract and reliability testing</b> for distributed microservices, lowering customer-facing service failure incidents by <b>20%</b></li></ul>	
<ul style="list-style-type: none"><li>Designed <b>integration and end-to-end test suites</b> covering auth expiry, session lifecycle, and multi-tenant access edge cases, improving <b>critical-path defect detection by 30%</b> pre-release</li></ul>	
<ul style="list-style-type: none"><li><b>Mentored 4 newly joined engineers</b>, providing <b>5 lab demonstrations and 10+ walkthrough</b> of different cloud-based products, reducing onboarding ramp time from <b>~4 weeks to ~10 days</b></li></ul>	

### Fullstack Developer Intern

Acies Consulting LLP, Mumbai, India	Aug 2021 – Jan 2022
<ul style="list-style-type: none"><li>Optimized a <b>stateless Django backend</b> enabling dynamic connections across <b>MySQL, PostgreSQL, Redis, and Parquet</b> stores, supporting customers who want different databases as storage</li></ul>	
<ul style="list-style-type: none"><li>Implemented an automated <b>financial data ingestion pipeline</b> using the <b>Yahoo Finance API</b>, improving reporting turnaround time and reducing manual data preparation by <b>~20%</b></li></ul>	

### Graduate Learning Assistant

Aug 2025 – Dec 2025

<ul style="list-style-type: none"><li>Mentored <b>38 students</b> in C++ problem solving and debugging, improving their clarity in assignment approach and code structure, increasing the average score by <b>25%</b></li><li>Conduct lab sessions and provide descriptive grading feedback that increased understanding of evaluation criteria</li></ul>
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## Projects

### [Distributed MapReduce Compute Framework](#) - C++, gRPC, HDFS, AWS EC2

<ul style="list-style-type: none"><li>Designed a distributed <b>MapReduce</b> framework (master + multi-threaded workers + reducer) for <b>large-scale text processing</b> using Ubuntu 22.04 LTS AWS EC2 instances</li><li>Resolved <b>reducer-side lock contention</b> by introducing a double-buffered queue with fine-grained synchronization, reducing RPC blocking <b>~40%</b> and improving throughput <b>6–7x</b></li><li>Tuned batching and serialization parameters through <b>72 scaling experiments</b>, minimizing worker idle time by <b>25%</b> and achieving near-linear scaling up to <b>4 workers</b></li></ul>
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### [Risk-Based Vaccination Prioritization System](#) - Django, Scikit-Learn

<ul style="list-style-type: none"><li>Improved the standard eligibility decisions for vaccination by implementing a <b>Random Forest Model</b>, achieving <b>~85% predictive accuracy</b>, leading to more equitable vaccination sequencing</li><li>Deployed the scoring engine behind <b>Django REST APIs</b>, enabling real-time eligibility decisions and reducing manual screening time for community health volunteers</li></ul>
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## Technical Skills

C++ • Java • Python • JavaScript • Ruby on Rails • Django • gRPC • Selenium • Jenkins • MySQL • PostgreSQL • AWS (EC2)
• Test Automation • Version Control • Automated Testing • cross-functional • problem-solving