

# Mehul Prince

Backend Software Developer | System Architecture Enthusiast

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## Education

**SRM Institute of Science and Technology**, B.Tech in Computer Science and Engineering Expected 2026

- **Relevant Coursework:** Distributed Systems, Data Structures & Algorithms, Database Systems

## Experience

**Software Developer Intern**, Acceleron Labs – Bangalore Jun 2024 – Aug 2024

- Developed robust backend infrastructure for enterprise-grade platform validation framework, implementing scalable Python microservices with Flask API endpoints and PostgreSQL integration for handling distributed system validation across multi-node environments
- Automated discovery and validation of PCIe devices, storage controllers, and network components with 100% reliability using intelligent detection algorithms and comprehensive health monitoring systems
- Implemented SSH-based distributed automation using Paramiko for seamless remote system management and cross-node communication, ensuring enterprise-level robustness and cross-platform compatibility
- Engineered comprehensive performance benchmarking suite integrating FIO and IPERF3 for disk and network analysis, parsing complex metrics including IOPS, latency, and CPU utilization for 99.999% infrastructure reliability
- Developed scalable real-time Flask web dashboard with backend API integrations enabling live monitoring, visualization, and management of validation results and performance metrics across distributed architectures
- Achieved 99.9% automation reliability with comprehensive error handling, eliminating manual validation processes and reducing infrastructure deployment time by 80%

## Projects

**IdeaSynch - Investor-Founder Funding Platform** Feb 2025 – May 2025

- Built full-stack funding platform connecting investors and student founders with dual dashboard architecture
- Implemented Supabase backend with PostgreSQL for user authentication, real-time data sync, and secure funding transactions
- Developed separate founder and investor dashboards with role-based access control and personalized funding workflows
- **Tools Used:** React, Supabase, PostgreSQL, Real-time Data Management, Authentication Systems

**Multilingual NLP System for Low-Resource Languages**

Jan 2025 – May 2025

- Fine-tuned multilingual BERT (mBERT) for Malayalam POS tagging with custom dataset optimization
- Integrated Samanantar parallel corpus (1M+ sentence pairs) for bilingual translation using encoder-decoder architectures
- Implemented comprehensive evaluation framework with accuracy, F1-score, and BLEU metrics
- **Tools Used:** Python, PyTorch, HuggingFace Transformers, Large-scale Data Processing

## Technical Skills

**Backend & Systems:** Python, Java, Flask, API Development, PostgreSQL, Distributed Computing

**Performance & Infrastructure:** FIO, IPERF3, System Optimization, SSH Automation, Linux Networking

**ML & Data Processing:** PyTorch, HuggingFace Transformers, Large-scale Data Processing, NLP Pipelines

**Frontend & Development:** React, TypeScript, Angular, HTML/CSS, JavaScript, Cross-platform Deployment

## Achievements

**IMC Prosperity 3 - Algorithmic Trading Challenge** (Apr 2025): 60th Nationally, 387th Globally out of 12,000+ teams. Developed high-frequency trading algorithms with focus on performance optimization and real-time decision making.