# Piyush Ram Kasle

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## Education

**Florida Institute of Technology** — Melbourne, FL
*Master of Science in Software Engineering* — *Aug 2024 - May 2026*

**University of Mumbai, Fr. Conceicao Rodrigues College of Engineering** — Mumbai, India
*Bachelor of Engineering in Computer Science* — *Jul 2020 - May 2024*

## Experience

**Acaira Technologies Pvt. Ltd.** — Mumbai, India
*Software Developer* — *Jun 2023 - May 2024*

- Designed and developed scalable *RESTful backend services* with **OO patterns** in *Java, Express.js, and MySQL*, powering enrollment, attendance, scheduling, and finance workflows for **1,000+ daily users**.
- Integrated *Google Meet API* to automate attendance tracking, saving **5+ hours/week** of manual work.
- Automated fee receipts using *Mailgun API*, eliminating manual Excel work, cutting processing time **by 40%**, and reliably sending **4,300+** emails/year.
- Built *React* analytics dashboard and optimized backend queries by **94%** (3.2s to 180ms) through s*trategic indexing and query caching* across **850K+ records**, directly improving page responsiveness for **12 core KPIs**.

**Team Robocon CRCE** — Mumbai, India
*Embedded Software Developer* — *Dec 2021 - May 2023*

- Developed modular *embedded C/C++* architecture with systematic testing framework reducing integration debugging time from **2 days to 5 hours**, enabling parallel development across multiple subsystems.
- Mentored **3** developers in debugging and code quality while collaborating with mechanical and electrical teams on hardware-software integration, achieving **All India Rank 21** among **100+ teams**.

## Projects

**MLOps Monitoring Platform** — Aug 2025 - Dec 2025

- Architected a real-time ML monitoring platform, fine-tuning a **DistilBERT transformer** with *FastAPI, PostgreSQL, and Redis*, achieving **sub-150ms p95** latency at **200+ req/second.**
- Developed a three-tiered drift detection engine **(PSI, KS, JS Divergence)** to identify data, concept, and prediction drift with a low **8%** false-positive rate.
- Authored an **8-chapter, 50-page** technical report in *LaTeX* documenting methodology and experimental validation, including a specific limitation where statistical detectors missed vocabulary drift.

**Smart Parking Management System** — Jun 2023 - May 2024

- Built full-stack reservation system with *FastAPI, React*, and *JWT authentication*, delivering end-to-end user booking, slot availability, and admin dashboard features backed by *PostgreSQL* with *RESTful API* integration.
- Integrated *YOLOv8* computer vision on a live camera feed for **real-time** vehicle detection (**98% accuracy**), automatically updating slot status and surfacing parking violations to admins via dashboard.
- Load tested to **100** concurrent users with **sub-200ms** latency and zero double-booking through row-level locking and background workers.

## Technical Skills

**Languages:** Java, Python, JavaScript(Node.js, Express.js), TypeScript, C/C++, SQL, GraphQL
**Web Frameworks & Libraries:** FastAPI, Flask, SQLAlchemy, React.js/Router, HTML5, CSS3, Pydantic
**Databases:** PostgreSQL, MySQL, SQLite, MongoDB
**DevOps & Cloud:** Docker, AWS (EC2, S3), GitHub Actions, Linux, CI/CD
**ML & Data:** PyTorch, Transformers, scikit-learn, Numpy, pandas, Streamlit
**Developer Tools:** AI coding assistants (Claude Code, GitHub Copilot, Cursor), Git, SonarQube, OpenAPI, Agile