

# Prem B

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## Experience

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### Machine Learning Engineer Intern | Google Developers | Virtual Apr 2025 – May 2025

- Preprocessed and standardized 8+ datasets and built feature pipelines to improve model input quality, enabling identification of 12% more actionable trends.
- Delivered an interactive Dash analytics dashboard and concise technical packet (20 slides + 10-min walkthrough), cutting stakeholder review time by 30% and adopted by 3 teams.

### Software Engineer Intern | ISRO ISTRAC | Bengaluru Jan 2025 – Feb 2025

- Built a Flask telemetry dashboard with optimized SQL ingestion; reduced telemetry latency from 5s to 2s and improved operational monitoring.
- Automated binary-to-JSON ingestion and integrated centralized logging (ELK stack) to accelerate investigations and cut manual data prep by 60%.

### AI & Robotics Intern | ISRO SDSC | Sriharikota Sep 2024 – Oct 2024

- Designed PyBullet + OpenCV robotic-arm workflows achieving a 92% simulated pick-and-place success rate.
- Trained PPO & DQN agents to raise assembly precision (15%) and documented architecture while mentoring a 5-member team.

## Projects

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### AARCS — Automated Ambulance Route Clearance System *Flutter, Firebase, Node.js, Google Maps API*

- Built paired Flutter apps with Firebase Realtime DB and Node.js backend; simulations show 50% reduction in emergency transit time in dense urban tests.
- Integrated Google Maps for live tracking and dynamic rerouting; added Firebase Admin role-based auth for traffic-control coordination ([Project link](#)).

### Portfolio Website *React/Next.js, Accessibility, SEO*

- Minimal, responsive site with animated background, light/dark modes and recruiter-focused micro-interactions.
- Applied SEO & performance optimizations (lazy-load, optimized assets, semantic metadata) with measurable Lighthouse gains ([Project link](#)).

## Education

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### B.Tech — Computer Science and Engineering 2022 – Present

**Bharath Institute of Science and Technology** *Chennai, Tamil Nadu*  
CGPA: 8.81/10

### Intermediate (MPC), St. Vincent's. Mat. High. Sec. School 2020 – 2022

Percentage: 74.5% *Chennai, Tamil Nadu*

### State Board (SSLC), St. Vincent's. Mat. High. Sec. School 2019 – 2020

Percentage: 81.6% *Chennai, Tamil Nadu*

## Technical Skills

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**Languages & Frameworks:** Python, Dart (Flutter), JavaScript (React/Next.js), Java, SQL, Node.js.

**AI/ML & Robotics:** PyTorch, TensorFlow, Scikit-learn, OpenCV, PyBullet, Reinforcement Learning (PPO, DQN), CNNs/RNNs.

**Back-end & Cloud:** Firebase Realtime DB, REST APIs, AWS basics.

**Web & Performance:** Flask, Dash, SEO & performance optimization, responsive design, accessibility.

**Tools:** Git, GitHub, CI/CD, unit testing, logging/observability.

## Additional

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**Languages:** Tamil (Native), English (Fluent), Hindi (Proficient), Japanese (Basic).