

# N AADESH

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“Backend AI Engineer skilled in building scalable systems, cloud-native applications, and high-performance search workflows.”

## Education

<b>Amrita Vishwa Vidyapeetham</b> <i>B.Tech in Computer and Engineering</i>	<i>Aug 2023 – Present</i> <i>Coimbatore, TN</i>
<ul style="list-style-type: none"><li>◦ CGPA: 7.09 (Expected date of graduation: July 2027)</li><li>◦ Machine Learning, Distributed Systems, Database Management, Data Analytics</li></ul>	

## Work Experience

### Infotact Solutions

#### *Full Stack Developer Intern*

- Developed secure JWT authentication along with real-time cart and order-tracking features, increasing overall user engagement Reduced by **40%**.
- Built a scalable Razorpay-ready payment layer for **500+ users** and reduced payment setup effort by **60%**.
- Engineered scalable RESTful APIs and analytics dashboards, reducing **query response times by 45%**.

## Projects

### Alibaba RFQ Scraper

[GitHub ↗](#)

Python Web Scraper

- Accelerated market intelligence gathering by developing a multi-page scraper that efficiently processed up to **20 pages of RFQ results**, yielding detailed data on **over 72 unique B2B sourcing requests** from United Arab Emirates buyers.
- Captured and structured **16 critical data points** for each RFQ, providing comprehensive market insights ready for immediate business analysis and lead prioritization.
- Engineered advanced stealth techniques (randomized User Agents, **2-6 second** human-like delays) to successfully bypass complex anti-bot and CAPTCHA systems, ensuring continuous data flow.
- **Tech:** Python, Selenium WebDriver (Chrome), BeautifulSoup, Pandas.

### Kleid

[Live ↗/GitHub ↗](#)

*E-Commerce Platform*

- Implemented distinct JWT-based authentication layers to manage **2 user roles**, isolating administrative functionality and protecting sensitive endpoints.
- Engineered a RESTful API supporting **10+ primary endpoints** across critical modules (Products, Cart, Orders, Users), ensuring scalable and predictable data interaction
- Integrated **2 mission-critical third-party services** (Razorpay for payment and Cloudinary for asset management), streamlining checkout and handling product images.
- **Tech:** React.js, Node.js, Express.js, MongoDB.

### Diagra

[GitHub ↗](#)

*AI-Powered Diagram Generation Platform*

- Implemented **TanStack Query** (React Query) to manage state and caching across **3 primary application pages**, demonstrating best practices for high-performance data fetching and synchronization.
- Used **Prisma ORM** to model and enforce relations between **2 core database entities** (Project and Diagram), ensuring data integrity and query optimization for a PostgreSQL database.
- Designed and implemented a RESTful API with **8+ dedicated endpoints** across the project and diagram routes, covering all CRUD operations for user data.
- **Tech:** React, TypeScript, Node.js, Express.js, PostgreSQL, Prisma ORM.

## Hackathons

### Adobe India Hackathon 2025

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- Engineered a **4-stage document processing pipeline** improving parsing accuracy by **35%** and reducing LLM hallucinations.
- Developed real-time snippet extraction engine using **FAISS similarity search**, enabling context-aware retrieval within **1.2s latency**.
- Integrated Azure TTS to generate natural **multi-speaker audio summaries**, enhancing **user engagement by 50%**.

### HP Power Lab 2.0

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- Implemented **IMO EEOI** (Energy Efficiency Operational Indicator) tracking and optimized routes to achieve a **12.5% reduction in CO emissions** (1,200 MT to 1,050 MT).
- Reduced the monthly fleet scheduling time from a manual **2-3 days** (using Excel) to an automated optimal solution in under **5 minutes**.

### Alkimi Blockchain Hackathon

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- Reduced manual administrative overhead by **95%** by automating the claim process, and **secured** the token supply with **Admin Control** features, restricting top-up operations to a **single** authorized address.
- **Optimized** on-chain traceability by integrating **Event Emission** logic, providing transparent logs for **100%** of all claim and refill transactions.

## Technical Skills

**Programming Languages:** Python, C, C++, Java, TypeScript/JavaScript.

**Backend & APIs:** FastAPI, Node.js (Express), Next.js API Routes, OCR & NLP Pipelines.

**Databases & Storage:** PostgreSQL, MongoDB, Vector Stores, Redis.

**Cloud, DevOps & Edge:** Google Cloud Platform (Vertex AI, Cloud Run, GCS), AWS, Docker.

**AI/ML & Tooling:** Vertex AI, TensorFlow, OpenCV, Git, Vercel, CI/CD Workflows.