Dhruv Belai

Software Engineer | MERN Stack | AWS | Automation

Boston | MA | (857) 763-9077

belai.d@northeastern.edu | linkedin.com/in/dhruv-belai | github.com/DeeyBeey | deeybeey.vercel.app

SKILLS

Languages: Python, Java, JavaScript (ES6+), TypeScript, Bash, SQL

Databases: MySQL, MongoDB, PostgreSQL

Frameworks & Libraries: React, Django, Redux, Node.js, Express, Axios, Mongoose, jsPDF, JWT, bcrypt, Multer, REST APIs, JUnit, Jest, Cypress, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, PyTorch

Cloud, DevOps & Tools: AWS (EC2, Lambda, S3, RDS, SageMaker), Docker, Git, GitHub Actions (CI/CD), Jupyter

WORK EXPERIENCE

Machine Learning / Software Engineer, *SolBid*   *June 2025 – Present*

- **Drove** core frontend **migration** from **PHP** to **React** by designing **reusable components** and improved **architecture** for greater **scalability** and **maintainability**, while **collaborating across teams** to ensure a smooth transition.
- **Reduced** rooftop solar panel design time by 98% (5 min → few seconds) with **an algorithm** that **automatically places panels** based on adjustable **safety** and **aesthetic rules**, replacing the need for **manual layout**.
- **Cut** HR response time and **reduced founder workload** by **automating** query handling through **GenAI-powered HR Bot** and **Support Bot**, using a **custom RAG pipeline (Phi-1.5, Phi-3 Mini)** integrated with **Slack**.

Founder & Software Engineer, *PayMate*   *January 2025 – Present*

- **Lowered** manual bill-splitting time by **80%** (15min → 3min) by building a full-stack **MERN** web app that scans grocery receipts with **Tesseract OCR**, refines messy text using the **OpenAI API**, and parses items with **RegEx**.
- **Designed** a simple, **zero-learning-curve** interface with split history, validation checks, and downloadable summaries, incorporating **real user feedback** to boost accuracy and ease of use.

Data Scientist Teaching Assistant, *Northeastern University*   *September 2024 – April 2025*

- **Boosted student performance** in **a 300+ student** course by mentoring **100+ students**, giving tailored feedback that **improved grades**; built weekly resource guides with examples and documentation to **support all skill levels**.
- **Led and onboarded** a 15-person TA team across two terms, maintaining **99% grading accuracy** and ensuring on-time grading; resolved TA issues without professor involvement, saving significant faculty time.

Software Engineer, *Nibodh Educare*   *May 2022 – January 2023*

- **Built** a full-stack education portal using the **MongoDB, Express, React and Node (MERN)** stack with scalable **REST APIs** and reusable components, reducing code redundancy and enabling feature iterations.
- **Enhanced system responsiveness** by **20%** through **optimized microservices** and **caching** on AWS for reliability.
- **Strengthened QA reliability** by building testing pipelines with Cypress and Jest, reducing release bugs by **~30%**.

PROJECTS

NBA Game Outcome Prediction Using Neural Networks   *September 2024 – December 2024*

- **Predicted NBA game outcomes with 65% accuracy** using PyTorch models trained on 25 years of data, **improving baseline by 15%** through targeted feature engineering and tuning, simulating betting strategies to explore monetization.

Distributed Key-Value Store   *June 2024 – August 2024*

- Developed a **distributed key-value** store in Java using TCP, UDP, and RMI, with **custom architectures** supporting get/put/delete operations, **2PC** for fault-tolerant transactions, and **PAXOS** for high availability and consistency.

EDUCATION

Northeastern University, *Boston, MA*   *September 2023 – May 2025*

Master of Science in Computer Science

Relevant Coursework: Scalable Distributed Systems, Algorithms, Machine Learning, Web Development

University of Mumbai, *Mumbai, IN*   *January 2020 – June 2023*

Bachelor of Engineering in Computer Engineering

Relevant Coursework: Data Structures, Big Data Analytics, Natural Language Processing, Cloud Computing