Pranav D P

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Education

BMS College of Engineering — Bengaluru
Bachelor of Engineering in Computer Science — *Oct 2024 – Present*

Technical Skills

Languages: Python, Java, C, JavaScript, SQL, HTML, CSS
Frameworks: React.js, Next.js, Flask, PyTorch, TensorFlow, Keras, scikit-learn, OpenCV, Tailwind CSS
Tools: Git, Google Colab, Jupyter Notebook, MongoDB, Pinecone, MySQL, SQLite, GCP, Vercel, Render
Course Work: Data Structures, Databases, OOP, Computer Architecture, Full Stack Dev, Machine Learning

Projects

MoodQuest | *EfficientNet-B0, PyTorch, OpenCV, Flask, Next.js, MongoDB* — Nov 2025

- Built a real-time facial emotion recognition system using a fine-tuned **EfficientNet-B0** model on the FER-2013 dataset, achieving optimal validation accuracy across 10 training epochs with a 70% data subset.
- Developed a full-stack mood tracking platform featuring stress-level analysis, standard mental health assessments (**PHQ-9, GAD-7, PSS**), and an integrated AI chatbot to provide actionable wellness insights.
- Secured **6th place** at a national hackathon, delivering a fully functional MVP within a **48-hour** sprint by orchestrating a scalable Flask backend with a responsive Next.js frontend architecture.

HackArena | *Flask, MongoDB, JavaScript, Google OAuth, HTML/CSS* — Mar 2025

- Architected a scalable hackathon hosting platform featuring role-based dashboards to streamline team formation, event management, and submission workflows with secure **Google OAuth 2.0** authentication.
- Designed RESTful APIs using Flask and MongoDB to handle concurrent event data and team registrations, utilizing optimized database queries to ensure low-latency performance during peak traffic.
- Implemented an administrative control panel allowing organizers to oversee the complete event lifecycle, from reviewing participant submissions to managing real-time judging and scoring systems.

CareBridgeAI | *Python, RAG, Pinecone, SciSpaCy, React, Flask, MongoDB* — Sept 2025

- Constructed a medical dialogue retrieval system processing 250,000+ patient-doctor interactions, leveraging **SciSpaCy** for biomedical entity recognition and **Sentence Transformers** to generate contextual embeddings.
- Designed end-to-end RAG infrastructure using **Pinecone** vector database for millisecond-latency semantic search, integrated with **Groq's Llama 3.3** to synthesize grounded, citation-backed responses from retrieved cases.
- Built a comprehensive humanitarian platform encompassing symptom-based facility matching, budget-aware resource filters, volunteer coordination, and environmental health modules to bridge gaps in refugee support.

FabrAIc | *PyTorch, ResNet50, Flask, MongoDB, HTML/CSS, Google OAuth* — Aug 2025

- Trained a dual-task ResNet50 architecture on DeepFashion corpus, designing specialized prediction heads for 50-class categorization and 25 binary attribute recognition while extracting 2,048-dimensional representations.
- Developed a visual search engine indexing 289,000+ garment images, implementing cosine similarity matching across extracted embeddings to retrieve top-5 stylistically similar items with sub-second latency.
- Facilitated personalized wardrobe curation by integrating **OAuth** authentication and **MongoDB GridFS** storage, enabling users to upload, catalog, and retrieve their clothing inventory alongside AI-powered recommendations.

AlphaWave | *LSTM/GRU, FinBERT, Flask, Next.js, MongoDB* — Nov 2025

- Architected a composite inference pipeline that merges **Hybrid LSTM/GRU** technical forecasting with **FinBERT** sentiment vectors, employing a **Linear Regression** meta-model to synthesize final risk metrics.
- Integrated real-time **GDELT** news streams to drive the sentiment analysis, correlating global geopolitical polarity with stock trends to enhance the model's adaptability to sudden market shifts.
- Engineered a competitive simulation ecosystem featuring **head-to-head trading duels** and **behavioral assessment modules**, utilizing gamification to quantify user emotional resilience under simulated volatility.

Experience

CodeIO Club | Research & Development Member — Nov 2025 – Present
AeroBMS Club | Web Development Team — Jul 2025 – Present