DENEL B JOHN

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PROFESSIONAL SUMMARY

AI/ML and Full Stack Computer Science student at Manipal University Jaipur, specializing in deep learning, computer vision, natural language processing, and production-grade web application development. Achieved 99.13% image classification accuracy on a 54,000-image dataset using EfficientNetV2 and transfer learning. Engineered 3 end-to-end full-stack projects integrating React.js, Node.js, FastAPI, PostgreSQL, and Supabase.

EDUCATION

B.Tech — Computer Science & Engineering (AI/ML) | Manipal University, Jaipur *Aug 2023 – May 2027*

Relevant Coursework: Machine Learning, Deep Learning, Computer Vision, Data Structures & Algorithms, Database Management Systems, Statistical Analysis, Object-Oriented Programming, NLP

NOTABLE ACHIEVEMENTS

- Achieved 99.13% image classification accuracy on 54,000+ images using EfficientNetV2 and transfer learning, surpassing CNN baseline by 4.2% via systematic hyperparameter tuning and data augmentation strategies.
- Earned NPTEL ELITE Gold certification in Machine Learning, ranking in the top 5% of participants nationwide (Dec 2025).
- Completed Stanford University & DeepLearning.AI Machine Learning and Deep Learning Specializations on Coursera, demonstrating mastery in neural networks, CNNs, RNNs, and model optimization (Apr 2026).
- Gamification research paper selected for pilot implementation by faculty panel, driving research adoption into academic curriculum for 200+ students.

PROJECTS

LEAFLITICS — AI Plant Disease Diagnosis System *2025*

TensorFlow, EfficientNetV2, Keras, OpenCV, React.js, FastAPI, Python, Transfer Learning

- Trained EfficientNetV2 deep learning model on 54,000+ PlantVillage images across 38 disease classes using transfer learning and fine-tuning, achieving 99.13% test accuracy — a 4.2% improvement over baseline CNN benchmarks.
- Accelerated model training by 35% through stratified subsampling (500 images/class) and TensorFlow data augmentation pipelines, reducing compute time from ~6 hours to ~4 hours via feature engineering and efficient preprocessing.
- Built Python FastAPI inference endpoint with RESTful API design, delivering plant disease predictions in under 1.5 seconds per image with zero cloud dependency, reducing monthly inference cost by 100%.
- Optimized React.js + Tailwind CSS frontend via lazy loading and component memoization, improving Lighthouse performance score from 61 to 87 and reducing UI load time by 40%.

ATTENDIO — Face Recognition Attendance System *2025*

CNN, Python, React.js, Supabase, PostgreSQL, Vercel, Framer Motion, Computer Vision

- Developed a CNN-based computer vision face recognition system automating attendance tracking for 100+ student records, eliminating 3 hours of manual processing per class per week.
- Designed normalized PostgreSQL database schema with Supabase real-time sync, reducing attendance data retrieval latency by 60% over prior spreadsheet workflows through SQL query optimization and efficient indexing.
- Deployed on Vercel achieving sub-200ms average load time and 99.9% system availability across 50+ test sessions; built animated React.js dashboard with Framer Motion for responsive, intuitive UX.

LEARNUP — Full-Stack Gamified Coding Platform *2024 – Present*

React.js, Node.js, Express.js, Supabase, PostgreSQL, REST APIs, React Context API, JSONB

- Architected and developed a production-grade full-stack gamified coding platform using React.js, Node.js, Express.js, and Supabase (PostgreSQL) — handling user authentication, dynamic routing, and structured JSONB data storage at scale.
- Engineered a secure code execution pipeline in Node.js + Express supporting Python, Java, C++, and C; processes user-submitted solutions against hidden test cases via REST API endpoints with sandboxed, isolated evaluation per submission.
- Implemented server-side payload validation and API contract enforcement to prevent unauthorized code injection, reducing attack surface and ensuring tamper-proof evaluation across all API endpoints.
- Designed gamification engine using React Context API and PostgreSQL foreign key relational joins, eliminating duplicate-reward exploits and maintaining referential data integrity across concurrent user sessions.

- Built real-time React.js frontend with live XP tracking, interactive progress bars, and leaderboards, driving measurable improvement in student engagement and algorithmic problem-solving completion rates.

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, Java, C, C++, SQL, Bash, HTML5,

AI / Machine Learning: TensorFlow, Keras, Scikit-learn, NumPy, Pandas, CNNs, LSTMs, EfficientNetV2, Transfer Learning, NLP, Feature Engineering, Hyperparameter Tuning, Model Evaluation, Data Augmentation

Computer Vision: OpenCV, Image Classification, Object Detection, Feature Extraction, CNN Architectures, EfficientNetV2, TensorFlow, Keras

Data Science & Analysis: Exploratory Data Analysis (EDA), Data Visualization, Matplotlib, Statistical Analysis, Pandas, NumPy, Scikit-learn, Jupyter Notebook, Google Colab

Web & Full Stack: React.js, Node.js, Express.js, FastAPI, REST APIs, Tailwind CSS, Framer Motion, Streamlit

Databases: PostgreSQL, MySQL, PL/SQL, Supabase, SQL Query Optimization, Database Design, Normalization, Indexing, JSONB

Cloud & DevOps Tools: Vercel, Google Colab, Git, GitHub, VS Code, Postman, Jupyter Notebook

CERTIFICATIONS

- Deep Learning Specialization | DeepLearning.AI | Coursera | April 2025
- Machine Learning Specialization | Stanford University & DeepLearning.AI | Coursera | Feb 2026
- Introduction to Machine Learning,| NPTEL | Dec 2025
- Python Essentials 1 & 2 | Cisco Networking Academy | Oct 2024
- Database Programming with PL/SQL | Oracle Academy | Oct 2024