Pragadeeswaran K | AI/ML Engineer & Research-oriented Developer

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Professional Summary

B.Tech Artificial Intelligence student (CGPA 9.31/10) with hands-on experience in computer vision, reinforcement learning, statistical analysis, and accelerated ML systems. Skilled in TensorFlow, PyTorch, RAPIDS, and modern web stacks, with a track record of reproducible research, mentoring, and end-to-end deployment of AI products. Open to research or technical roles focused on advanced ML systems.

Research Interests

Computer Vision; Deep Learning; Representation Learning; Reinforcement Learning; Agentic AI; Efficient/Accelerated ML; Applied Statistics; NLP; Generative Models

Technical Skills

Languages: Python, TypeScript, JavaScript, SQL, Java, Dart, HTML5/CSS3

AI/ML: TensorFlow, PyTorch, Keras, Scikit-learn, RAPIDS cuDF/cuML, OpenCV, Hugging Face, NLTK

Data: Pandas, NumPy, Matplotlib, Seaborn, SPSS, Statistical Analysis, Hypothesis Testing

Web Dev: React, Next.js 14, Tailwind CSS, REST APIs, Flask, Node.js

Cloud/DevOps: AWS, Oracle Cloud, Vercel, Git/GitHub, CI/CD, Serverless

Tools: Streamlit, Jupyter, VS Code, Docker, Beautiful Soup, PyTesseract, Pygame

Education

SRM Institute of Science and Technology — **Chennai**
B.Tech in Artificial Intelligence, CGPA 9.31/10 | Expected May 2026 — *2022 – Present*
Key coursework: ML, DL, CV, RL, Data Structures, DBMS, Computer Architecture, Probability, Linear Algebra, Operating Systems, Cloud Foundations, Data Engineering

Jeeva Velu International School — **Tiruvannamalai**
Higher Secondary Education, Score: 81.8% — *2020 – 2022*
Computer Science stream

Sri Siksha Kendra International School — **Tiruvannamalai**
Secondary Education, Score: 83.4% — *2018 – 2020*

Professional Experience & Internships

SRMIST — **Chennai**
AI/ML Student Researcher, Self-Directed Study — *Jun 2023 – Present*

- Designed reproducible ML experiments with systematic ablations and literature-backed baselines.
- Applied statistical analysis (hypothesis testing, regression, correlation) using Python/SPSS for health datasets.
- Presented results in academic forums; mentored peers on ML fundamentals and tooling.

Independent — **Remote**
Technical Projects & Open Source — *Jan 2024 – Present*

- Built Acadion Mobile (React Native) with offline-first architecture, secure local storage, and accessibility focus.
- Developed personal portfolio on Next.js 14 + Tailwind with performance-focused optimizations.
- Contributed to open-source (Seat Finder, Raspberry Pi Security Camera) through feature work and documentation.

Virtual Internships & Programs

- AICTE Eduskills – AWS AI/ML Virtual Internship; AWS Data Engineering.
- Google Android Developer – Virtual Program focused on Material Design and architecture components.
- ALTAIR Data Science Master – Advanced analytics, visualization, and statistical modeling.

Selected Projects

Python, RAPIDS cuDF/cuML
GPU-Accelerated Fake News Detection
- Built GPU-accelerated text classification pipeline comparing ensemble baselines with RAPIDS speedups.
- Engineered preprocessing and feature steps tuned for large datasets; reported runtime vs. accuracy trade-offs.

PyTorch, Pygame
Autonomous Driving Simulation (Deep Q-Learning)
- Implemented DQN with replay buffers and target networks; evaluated stability and sample efficiency.
- Visualized policy evolution, reward shaping, and exploration schedules for iterative tuning.

SPSS, Python
Diabetes Health Indicators Analysis
- Investigated BMI-linked outcomes using chi-square, correlation, and regression models.
- Delivered reproducible notebooks and SPSS outputs with effect-size interpretation.

TypeScript, React Native
Acadion Mobile (SRM Academia Companion)
- Built privacy-first academic companion app covering attendance, schedules, and grade tracking.
- Implemented offline state management and performance-tested builds for representative devices.

NLP, OCR, Flask
EduSmartBot
- Combined Beautiful Soup scraping, PyTesseract OCR, and NLP to generate study content and quizzes.
- Delivered Flask interface for PDF processing, Q&A, and personalized study support.

LSTM, RNN, HMM
Stock Price Prediction Ensemble
- Benchmarked multiple sequence models with standard error metrics and horizon sensitivity analysis.
- Built feature pipeline plus interactive plots to explain forecasts vs. ground truth.

Certifications

Oracle Cloud Infrastructure 2024 Generative AI Professional; Oracle Cloud Computing Foundations
AWS Academy Machine Learning Foundations; AWS Data Engineering; AWS Cloud Foundations
NPTEL Programming in Java, Database Management Systems, Computer Architecture
Hackathon Participant – CINTEL Digithon, Hackstreet 3.0, Webathon

Honours & Activities

Maintained top-decile CGPA (9.31/10) in B.Tech AI cohort.
Active hackathon contributor delivering AI/ML prototypes under time constraints.
Peer mentor for Python, ML fundamentals, and full-stack development.
Community contributor to tech programs (AICTE Eduskills, Google Android Developer, ALTAIR Data Science).

Additional Information

Soft Skills: Problem Solving; Critical Thinking; Collaboration; Adaptability; Communication; Project Management; Time Management
Tools: Git/GitHub, Jupyter, VS Code, PyCharm, Postman, Docker, npm/pip, SPSS, Pygame
Cloud: AWS (SageMaker, Lambda, S3), Oracle Cloud, Vercel, CI/CD pipelines
Specialized: RAPIDS GPU acceleration, Deep Q-Learning, Statistical Analysis, Time-Series Forecasting, IoT Systems (Raspberry Pi)
Languages: English (Professional), Tamil (Native)