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AI/ML

Computer Vision

Graduate Applicant

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GitHub | [🌐](#) Portfolio

Profile

B.Tech student in Artificial Intelligence (CGPA 9.31/10.0) with strong experience in computer vision, deep learning, reinforcement learning, and building efficient ML systems. Practiced at empirical research, statistical analysis, and deploying solutions with TensorFlow, PyTorch, RAPIDS, and OpenCV. Adept at reproducible experiments, technical writing, and cross-functional teamwork. Open to research, academic, or technical roles in AI/ML.

Research Interests

Computer Vision

Deep Learning

Representation Learning

Reinforcement Learning

Efficient/Accelerated ML

Applied Statistics

NLP

Generative Models

Education

B.Tech, Artificial Intelligence

CGPA: 9.31/10.0 | Expected Graduation: May 2026

SRM Institute of Science and Technology

Chennai, India

Higher Secondary (Class 12)

Percentage: 81.8% | Stream: Computer Science

Jeeva Velu Intl. School, 2022

Secondary (Class 10)

Percentage: 83.4%

Sri Siksha Kendra Intl. School, 2020

Certifications

- NPTEL: Programming in Java; Database Management System; Computer Architecture
- Oracle: Cloud Infrastructure 2024 Generative AI Certified Professional; Cloud Computing Foundations
- AWS Academy: Machine Learning Foundations; Data Engineering; Cloud Foundations
- Hackathons: CINTEL Digithon, Hackstreet 3.0, Webathon (Competition Participant)

Technical Skills

Languages: Python TypeScript JavaScript SQL Java Dart HTML5/CSS3

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

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

Web Development: React.js Next.js 14 Tailwind CSS TypeScript REST APIs Flask Node.js

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

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

Selected Academic Projects

GPU-Accelerated Fake News Detection System

RAPIDS cuDF/cuML, Python, ML

- Built text classification pipeline; evaluated classical and ensemble models with GPU acceleration (RAPIDS) for efficient training/inference.
- Designed preprocessing and feature engineering with cuDF/cuML; compared runtime/accuracy trade-offs under varying dataset sizes.
- Implemented ensemble baselines (logistic regression, random forests); reported results with standard metrics and ablations.

Autonomous Driving Simulation (Deep Q-Learning)

Reinforcement Learning, PyTorch, Pygame

- Implemented Deep Q-Learning with experience replay and target networks; studied stability and sample efficiency.
- Trained agents in simulation using PyTorch; analyzed learning curves, reward shaping, and effect of exploration schedules.
- Built visualizations to inspect policy evolution and failure cases for iterative refinement.

Diabetes Health Indicators Analysis

Statistical Analysis, SPSS, Python, Jupyter

- Investigated BMI-related associations using hypothesis testing and regression modeling on health indicator data.
- Applied chi-square tests, correlation analysis, and linear/logistic regression; validated assumptions and effect sizes.
- Produced reproducible notebooks and figures (Pandas/Matplotlib) and complementary SPSS outputs.

Acadion Mobile (SRM Academia Companion)

TypeScript, React Native, Mobile

- Built privacy-first companion app supporting attendance insights, schedules, and grade tracking.
- Implemented offline-first state management and secure local storage; emphasized usability and accessibility.
- Prepared distribution build and validated UI performance on representative devices.

EduSmartBot (AI Educational Assistant)

NLP, Web Scraping, OCR, Flask

- Built educational assistant integrating web scraping (Beautiful Soup), OCR (PyTesseract), and basic NLP.
- Implemented quiz generation from extracted content; evaluated extraction accuracy qualitatively across diverse sources.
- Developed a Flask interface supporting PDF processing, Q&A, and personalized study materials.

Stock Price Prediction (Multi-Model Ensemble)

Time Series, HMM, LSTM, RNN

- Compared HMM, LSTM, and RNN baselines for financial time series forecasting.
- Evaluated models with standard error metrics; discussed overfitting mitigation and horizon sensitivity.
- Built a feature engineering pipeline and interactive plots to analyze predictions versus ground truth.

Internships & Virtual Programs

- **AICTE Eduskills** — AWS AI-ML Virtual Internship: Trained on AWS SageMaker, model deployment, and MLOps best practices.
- **AICTE Eduskills** — AWS Data Engineering: Learned data pipelines, ETL processes, and cloud data warehousing solutions.
- **Google Android Developer** — Virtual Program: Explored mobile development, Material Design, and Android architecture components.
- **ALTAIR Data Science Master** — Virtual Program: Advanced data analytics, visualization, and statistical modeling techniques.

Soft Skills & Competencies

Problem Solving

Critical Thinking

Team Collaboration

Adaptability

Analytical Thinking

Communication

Project Management

Continuous Learning

Time Management

Research & Academic Experience

AI/ML Student Researcher

June 2023 – Present

Self-Directed Study and Coursework, SRMIST | Chennai, India

- Designed and executed ML experiments; maintained reproducible pipelines and systematic ablations.
- Conducted statistical analysis on health data using hypothesis testing, correlation, and regression with Python/SPSS.
- Practiced literature review and baseline replication; documented results and reflections in notebooks.
- Presented findings in academic settings and student forums; mentored peers on ML fundamentals and tooling.

Technical Projects & Open Source

January 2024 – Present

Independent Work | Remote

- Built Acadion Mobile app with TypeScript/React Native; implemented offline-first features and accessibility.
- Developed portfolio with Next.js 14 and Tailwind CSS; emphasized performance and semantic markup.
- Practiced CI/CD and testing workflows; iterated via code reviews and community feedback.

- Contributed to open-source (Seat Finder, Acadion Mobile, Raspberry Pi Security Camera) with documentation and issue triage.

Selected Coursework

ML; DL; Computer Vision; Data Structures and Algorithms; DBMS; Computer Architecture; Probability and Statistics; Linear Algebra; Operating Systems; Cloud Foundations; Data Engineering (AWS Academy)

Honors & Achievements

- Maintained CGPA 9.31/10.0 in B.Tech Artificial Intelligence program at SRMIST (top decile of cohort).
- Participated in multiple competitive hackathons: CINTEL Digithon, Hackstreet 3.0, and Webathon; demonstrated problem-solving under time constraints.
- Earned several certifications: Oracle Cloud Infrastructure GenAI Professional, Oracle Cloud Computing, AWS Academy ML Foundations, AWS Data Engineering, AWS Cloud Foundations, and NPTEL (Java, DBMS, Computer Architecture).
- Developed multiple AI/ML projects spanning GPU-accelerated systems, reinforcement learning, computer vision models, statistical analysis tools, and full-stack applications.
- Released open-source projects with documentation and deployment guides.

Leadership & Activities

- Active hackathon participant: Competed in CINTEL Digithon, Hackstreet 3.0, and Webathon; developed innovative solutions under tight deadlines.
- Provided peer mentoring in Python programming, ML fundamentals, and full-stack development; assisted classmates with project development and debugging.
- Contributed to open-source community with numerous public repositories on GitHub; focus on UI/UX improvements and comprehensive technical documentation.
- Active participant in tech communities and virtual learning programs (AICTE Eduskills, Google Android Developer, ALTAIR Data Science); collaborated on academic AI/ML research projects.

Additional Information

- **Development Tools:** Git/GitHub, Jupyter Notebook, VS Code, PyCharm, Postman, Docker, npm/pip package management, SPSS, Pygame
- **Cloud & Deployment:** AWS (SageMaker, Lambda, S3), Oracle Cloud Infrastructure, Vercel; experience with CI/CD
- **Specialized Skills:** GPU acceleration (RAPIDS cuDF/cuML), Reinforcement Learning (Deep Q-Learning), Statistical Analysis (Hypothesis Testing, Regression), Time Series Forecasting (LSTM, RNN, HMM), IoT Systems (Raspberry Pi)
- **Languages:** English (Professional proficiency), Tamil (Native)
- **Academic Interests:** Computer Vision, Representation Learning, RL, Efficient ML, Generative Models