Abhinav Raj

Student
Integrated M.Sc. Computer Science (AI/ML)

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PROFESSIONAL SUMMARY

Final-year Integrated M.Sc. student specializing in AI/ML with a strong research foundation in biosignal processing. UGC-NET qualified (93.05 percentile, Ph.D. eligible) with hands-on experience in developing intelligent systems using TensorFlow and Django. Seeking doctoral opportunities to pursue advanced research in machine learning and automation.

EDUCATION

Integrated M.Sc. in Computer Science with Specialization in AI and ML | 2021-2026

Nehru Arts and Science College Kanhangad, Kannur University

- Relevant Coursework: Machine Learning & Deep Learning, Data Mining & Data Warehousing, Neural Networks, Web Development & Database Systems, Computer Vision & NLP, Software Engineering & Design Patterns
- CGPA: 8.75 (based on *8 semesters*)

ACHIEVEMENTS

Qualified UGC-NET June 2025 (Computer Science and Applications) – Eligible for Ph.D. Admission

University Grants Commission (NTA) | Certificate No: 25J/03/071621 | Percentile: 93.05

PROJECTS

Replication of NINAPRO DB1 Myoelectric Benchmark

Academic Project, Ninth Semester – 2025 | GitHub: github.com/ARJ010/ninapro-db1-benchmark-replication

Replicated the foundational 2015 Atzori et al. benchmark on the NINAPRO DB1 dataset to validate sEMG control pipelines.

- Engineered a custom two-pass numpy.memmap pipeline to process high-dimensional features on 8GB RAM
- Validated scientific findings, identifying MAV + MLP as the optimal model for real-time prosthetic control
- Achieved a 99.9% training speedup by benchmarking and optimizing classifier implementations
- Tech Stack: Python, NumPy, SciPy, scikit-learn

Checklist Management System (CMS) *Deployed & In Use at TH&Co Chartered Accountants*

Academic Project, Sixth Semester – 2023 | GitHub: github.com/ARJ010/checklist_app

Developed a role-based task management system to streamline procedural workflows for a CA firm.

- Implemented secure multi-role access (Admin, User, Checker) to manage audit workflows
- Enabled checklist automation, form tracking, and revision feedback loops
- Tech Stack: Django, SQLite, HTML, CSS, JavaScript

Attendance Tracking System (ATS) *Deployed & In Use at Nehru Arts and Science College*
Collaborative College Project – 2024 | GitHub: github.com/ARJ010/Attendance_Tracking_System
Developed a comprehensive attendance management system for the Four-Year UG Programme.
- Designed a user-friendly interface for instructors to log attendance and generate CSV reports
- Optimized database schema for efficient storage of student and course data
- Tech Stack: Django, MySQL, Bootstrap

Counsel Accounting and Ledger Control (C.A.L.C.) *Deployed & In Use at Hosdurg Bar Association*
Independent Project – 2025 | GitHub: github.com/ARJ010/calc_app
- Automates monthly billing and dues calculation with conditional logic for the Bar Association
- Features an intuitive dashboard for batch entry and financial summaries
- Tech Stack: Django, SQLite, Bootstrap

SKILLS

- **Languages:** Python, C, Java, SQL, LaTeX, JavaScript, HTML, CSS
- **Libraries & Frameworks:** TensorFlow, PyTorch, scikit-learn, NumPy, SciPy, Pandas, Django, Streamlit
- **Tools & Platforms:** Git, GitHub, Jupyter Notebooks, MySQL, SQLite, VS Code
- **Development Areas:** Machine Learning, Deep Learning, Biosignal Processing (sEMG), Data Engineering, Web Development
- **Soft Skills:** Research Methodology, Technical Writing, Critical Thinking, Academic Communication, Problem-Solving

CERTIFICATIONS

TensorFlow Developer Professional Certificate
DeepLearning.AI – May 2025
Credential ID: UABTJPA585N8
- Completed full specialization covering CNNs, NLP, and Time Series Forecasting using TensorFlow 2.x
- Included hands-on projects and model implementation in real-world AI tasks

Mathematical Foundations for Machine Learning (Elite Certification)
NPTEL & IISc Bangalore – Oct 2025
Credential ID: NPTEL25CS136S959800072
- Awarded "Elite" status for performance in the 12-week advanced curriculum covering Linear Algebra, Probability, and Optimization

Project Completion Certificate – Checklist Management System
TH&Co Chartered Accountant Firm – Jul 2024
- Recognized for successful deployment and implementation of CMS

Web Development Basics (HTML, CSS, JavaScript)
University of Michigan – Nov 2023
- Credential IDs: F26NYDE6TBYC, 9NB9NJ6JV9L7, GGDU78ZXCLE7

Programming for Everybody (Getting Started with Python)
University of Michigan – Nov 2021
Credential ID: P2XYRZ3W3F96
- Covered foundational programming concepts in Python