

NEEL GHOSHAL, M.S.

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SUMMARY

M.S. Computer Science graduate from NC State University with production experience in statistical modeling, machine learning, and applied research. Built and deployed a production ML system with measurable performance gains at the GeoForAll Lab; published four peer-reviewed papers applying statistical and deep learning methods to real datasets; interned across four organizations translating business and research problems into data-driven solutions. Proficient in Python, statistical modeling, predictive modeling, and the full ML stack from exploratory analysis to deployment.

EDUCATION

M.S. Computer Science | NC State University, Raleigh, NC | Aug 2024 - Aug 2026

- Thesis: Investigating the Impact of Technical Debt Remediation on Code Translation Tasks: four-stage pipeline across frontier models including GPT-4/ChatGPT, Claude, Gemini, and DeepSeek; 70 controlled experiments; custom statistical evaluation framework; 4 peer-reviewed publications
- Coursework: Optimization and Algorithms, Advanced Deep Learning, AI, Statistics, Independent Study: ML in Software Engineering

B.E. Computer Science Engineering | Vellore Institute of Technology, India | Jul 2020 - May 2024

- Capstone: Indic Legal LLM: production LLM system with NLP | 4 published peer-reviewed papers in applied ML

TECHNICAL SKILLS

Data Science and Statistics: Python (expert), SQL (proficient), R (familiar); statistical methods, hypothesis testing, predictive modeling, exploratory data analysis, feature selection and engineering, model validation and optimization; data management, data quality, and governance; data visualization and reporting to influence business strategy

Machine Learning and AI: scikit-learn, PyTorch, TensorFlow, XGBoost, PEFT/LoRA fine-tuning, FAISS, NLP, Generative AI, LLMs (OpenAI, Anthropic, Gemini APIs, production); AWS (familiar, SageMaker); Weights and Biases; Pandas, NumPy, scipy, statsmodels; big data analytics platforms and scalable model deployment

Engineering and Collaboration: Golang (proficient), Java (proficient), C++ (proficient), TypeScript/JavaScript (familiar); Git, Docker, Linux; REST APIs, FastAPI (familiar); Matplotlib, Seaborn, Plotly; cross-functional collaboration translating business requirements into analytical solutions; mentoring and knowledge-sharing

WORK EXPERIENCE

Machine Learning Engineer (Intern) | GeoForAll Lab, NC State University | Jun 2025 - Jul 2025

Raleigh, NC

- Applied advanced statistical and machine learning techniques to develop a predictive natural language interface over 200+ real-world datasets: conducted exploratory data analysis, feature selection, and model validation; fine-tuned Qwen2.5-Coder-7B with PEFT/LoRA and built a retrieval pipeline; ensured data quality throughout the pipeline lifecycle
- Achieved 5x performance improvement and 30% reduction in computational overhead; communicated findings and technical tradeoffs to non-technical stakeholders

Research Assistant | Innovative Education Computing Lab, NC State University | Sep 2024 - Dec 2024

Raleigh, NC

- Applied statistical methods and machine learning to extract actionable insights from complex education datasets: built predictive models, conducted exploratory data analysis, and developed data pipelines; collaborated with senior researchers to improve analytical workflow efficiency by 80%

Data Science Intern | Prayojaka Technologies | Apr 2024 - May 2024

- Reviewed and analyzed prior data science work in the context of current company projects, conducted exploratory data analysis, identified trends and data quality issues, and communicated actionable findings to stakeholders

Machine Learning Intern | Reliance Jio | May 2023 - Jul 2023

- Built and validated predictive models using a dataset of 200K+ users; conducted feature engineering and statistical analysis on large-scale structured data; ensured data quality and governance throughout the pipeline; reported findings to cross-functional stakeholders

Blockchain Developer Intern | Evia Network | Aug 2022 - Oct 2022

- Designed and implemented distributed systems using Cosmos SDK and Golang, built REST API interfaces, and collaborated cross-functionally on system architecture and feature development

PROJECT EXPERIENCE

Pose Detection for Workouts: p5.js and PoseNet | Aug 2023 - Dec 2023

github.com/NeelGhoshal/IIPProj-WorkIn

- Built an online exercise training platform using the PoseNet library on the p5.js framework: real-time webcam-based posture detection triggers an on-screen timer only when the user performs the correct exercise posture, enabling accurate, self-guided personal training

VirtuAble: Accessibility Project | Jan 2021 - May 2021

github.com/NeelGhoshal/VirtuAble

- Built and publicly shipped a complete accessibility tool: OpenCV real-time gesture detection pipeline integrated with speech recognition for audio feedback, applying inclusive design principles to make the interface usable without a keyboard or mouse

PUBLICATIONS, CERTIFICATIONS AND LEADERSHIP

Publications (4): Chest X-Ray Classification (2023); AI in Radiation Oncology (2023); AI in Solar Systems (2023); Neuromorphic Visual Data Processing (2024)

Certifications: Statistics | ML Stanford/DeepLearning.AI | AI Analyst | TF Developer | Salesforce AgentBlazer Champion

Leadership: President, Ratio Christi NC State (2025-2026); hosted events with 100+ participants, Legatus Christi Award | Co-Lead, Cohere for AI (50+ participants); mentored workshop participants | VP, CodeChef-VIT (4,000+ participants)