



in nitin9

# NITIN GUPTA

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Portfolio

## EDUCATION

### University of South Carolina

**M.S.:** Computer Science; **Concentration:** Artificial Intelligence

**B.S.:** Computer Science; **Minors:** Mathematics, Data Science

**Relevant coursework:** Neuromorphic & Edge Computing, Artificial Intelligence, Machine Learning Systems, Pattern Recognition, Big Data Analytics, Software Engineering, Database Design

**GPA: 4.0/4.0**

Aug 2025 – May 2026

Aug 2021 – May 2025

## SKILLS

**Advanced** in Python, PyTorch, CUDA, Java, C++, Sklearn, Linux, git,  $\text{\LaTeX}$

**Native** in English, Hindi, Punjabi

**Intermediate** in JavaScript, React, SQL, NoSQL, R, SCRUM, Apache Hadoop

**Proficient** in Spanish

## EXPERIENCE

### AI Researcher

AI Institute of SC, University of South Carolina

Columbia, SC  
Aug 2024 – Present

- Led research in NEURO-SYMBOLIC AI AND NLP, focusing on planning, knowledge graphs, and multimodal AI systems
- Helped organize SAFE AI FOR SENIORS, a full-day hybrid, AAAI SPONSORED event (80+ attendees) with 8+ expert speakers
- Mentored students in research methodologies, resulting in SUCCESSFUL PROJECTS and improved experimental design
- Peer-reviewed 10+ RESEARCH PAPERS for top-tier AI conferences, ensuring quality and relevance in the field

### Volunteering Ambassador

Trew Friends

Columbia, SC  
Aug 2021 – Dec 2024

- Promoted ORGAN, EYE, & TISSUE DONATION through community outreach, educating individuals about life-saving donation opportunities
- Successfully persuaded OVER 300 INDIVIDUALS to register as donors on the national organ donor registry

### Explainable AI Research Intern

AI Institute of USC

Columbia, SC  
May 2024 – Aug 2024

- Engineered an NLP-ENRICHED KNOWLEDGE GRAPH FRAMEWORK to generate INTERPRETABLE & TRANSPARENT EXPLANATIONS for AI plans
- Conducted comprehensive TRAFFIC COLLISION DATA ANALYSIS for SC Dept. of Public Health, informing POLICY RECOMMENDATIONS and evaluating driver education effectiveness across 46 counties

### Machine Learning Researcher

Digital Research Services, University of South Carolina

Columbia, SC  
Aug 2022 – Apr 2024

- Performed LARGE-SCALE DATA MINING on 150+ YEARS of SC legislative records using NLP, preprocessing 10,000+ historical documents
- Trained ML classifiers to identify discriminatory Jim Crow language patterns, achieving 85%+ ACCURACY in automated historical detection

### Material Analysis Researcher

Jefferson Lab, University of South Carolina

Columbia, SC  
Jun 2022 – Oct 2022

- Developed C++ analysis code for magnet material simulations, yielding \$1M+ in projected research cost savings

## SELECTED PUBLICATIONS

### GAIco: A Deployed and Extensible Framework for Evaluating Diverse and Multimodal Generative AI Outputs

IAAI 2026

Developed an open-source evaluation library for multimodal GenAI with 13,000+ PyPI downloads in 2 months

### Towards Enhancing Road Safety in South Carolina Using Insights from Traffic and Driver-Education Data

AAAI 2025

Leveraged geospatial AI to analyze statewide collision patterns and inform real-world driver education policy changes

### Building a Plan Ontology to Represent and Exploit Planning Knowledge and Its Applications

Discover Data Journal 2025

Constructed the 1st comprehensive planning ontology to optimize planner selection and generate plan explanations.

### Revisiting LLMs in Planning from Literature Review: A Semi-Automated Analysis Approach . . .

ICAPS 2025

Built an automated trend-tracking platform to categorize research shifts and track the rapid evolution of LLMs in AI planning.

## SELECTED PROJECTS

### ArtEdge: Real-Time Neural Style Transfer for Mobile Devices

ArtEdge

- Developed an iOS application performing REAL-TIME NEURAL STYLE TRANSFER (NST) DIRECTLY ON-DEVICE using CoreML and edge computing

### RoostAI: University-Centered Conversational Assistant

RoostAI

- Deployed a production RAG-BASED LLM CHATBOT enabling USC students to QUERY 500+ CAMPUS SERVICES through natural language

### Beacon Of Hope: Personalized Meal Plan Recommender

Beacon Of Hope

- Built a FULL-STACK ML-POWERED MEAL RECOMMENDATION SYSTEM providing TAILORED NUTRITION RECOMMENDATIONS & VISUALIZATIONS

## SELECTED AWARDS & ACHIEVEMENTS

**AAAI Student Scholar** encouraging student participation in the AI research community

Feb 2025

**McNAIR Junior Fellowship** for undergraduate computer science research excellence

May 2024

**Phi Beta Kappa Freshman Award** for outstanding academic performance at USC.

Apr 2023