

# Amirhossein Nazeri

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Info: [GitHub](#), [Google Scholar](#), [LinkedIn](#)

## WORK EXPERIENCE

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### Generative AI Engineer

*DataRoo LLC*, Remote, 2023 - 2024

- Developed an AI application integrated with GPT-4 that was tailored for assessing electronic health records (EHR).
- Used BeautifulSoup, LangChain, and LanceDB for data wrangling, fine-tuning, Retrieval-Augmented Generation (RAG), consistent solutions, and fast knowledge retrieval.
- Achieved about 20% higher accuracy in EHR assessing than ChatGPT-4o.

### Graduate Research Assistant

*Clemson University*, 2022 - present, [Project link](#)

- Evaluated the security of SOTA object detectors DETR, Faster RCNN under adversarial examples.
- Tested on general and domain-specific autonomous driving scenario datasets.
- Secured the object detection by developing statistical-based anomaly detector.
- Utilized PyTorch for model development, Bash Scripting, GitHub, and CUDA for experimentation.

*Clemson University*, 2020 - 2022, [Project link](#)

- Designed an AI-based smart grid and energy management system using MATLAB.
- Developed a Deep LSTM Neural Network (DLNN) to forecast the power demand of a microgrid.
- Assessed model performance under false data injection (FDI), and developed an integrated machine learning-based framework to enhance model's resilience.
- ML-framework succeeded detecting and removing FDI by 99% and recovering smart grid overall performance by about 30%.

## SKILLS

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- **AI technology:** Generative models, Computer vision, Semantic analysis, and Statistical modeling.
- **Tools:** Python, CUDA, Bash Scripting, TensorFlow, PyTorch, LangChain, LanceDB, OpenCV, Web scraping, (e.g. BeautifulSoup), Scikit-Learn, R programming, SQL, SPSS, SAS, and Matlab.

## EDUCATION

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- **Doctor of Philosophy**, Automotive Engineering (AI-focused), Clemson University (3.9/4).
- **Master of Science**, Electrical and Computer Engineering, Texas Tech University, (3.804/4).

## SELECTED PROJECTS

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For the access to the list of PUBLIC projects: [GitHub](#).

- **AI Assistant for Ford Vehicles Specification Retrieval:**  
Scraped Ford 2024 website and created an efficient retrieval system addressing customers' questions on models specifications. Implemented semantic search (FAISS), and OpenAI embeddings for RAG.
- **PCB Multi-label Defect Detection using UNET Segmentation:**  
Trained a U-NET model to perform semantic segmentation and accurately classifying and localizing individual defects on PCB boards.