Himan Namdari

📞 +1 469-288-2861 • ✉ hnamdari@wpi.edu
www.himannamdari.com Greater Boston Area, US

Summary

Postdoctoral Associate at the Robert H. Smith School of Business, specializing in ESG-focused AI research. Ph.D. in Data Science with expertise in applied machine learning, LLMs, and retrieval-augmented generation (RAG). Research spans ESG analytics, agriculture, IoT, and healthcare, with emphasis on simulation, data processing, feature analysis, and pipeline modeling. Author of multiple peer-reviewed publications, advancing methods for deep learning, NLP, and scalable cloud-based platforms. Experienced in interdisciplinary collaboration across business, engineering, and computer science, with a proven record of designing and evaluating AI systems for real-world impact.

Core Strengths:
- Applied AI: Deep Learning, LLMs (e.g., GPT, Claude, Gemini), NLP, GANs, Prompt Engineering
- LLM Applications: Chatbots, RAG pipelines, LangChain, LangGraph, Vector DBs
- Cloud & Deployment: AWS, Azure, FastAPI, Docker, MLflow
- Data Science: Descriptive Analytics, Predictive Modeling, Feature Engineering
- Cross-Domain Experience: Agriculture, IoT, Biomedical, Education, and Business

Education

- **Ph.D. in Data Science**, Worcester Polytechnic Institute (WPI), 2022–2025
- **Ph.D. Coursework in Computer Science**, University of North Texas (UNT), 2018–2022 (transferred)
- **M.Sc. in Computer Science**, Sapienza University of Rome, Italy, 2015–2018
- **B.Sc. in Computer Engineering**, University of Applied Science, Iran, 2010–2014

Professional Experience

- **Postdoctoral Associate, Robert H. Smith School of Business – UMD (2025–Present)**
  Leading ESG-focused AI research with emphasis on retrieval-augmented generation (RAG), simulation, and pipeline modeling. Developing frameworks for large-scale ESG job postings. Training and deploying ML models (LLMs, deep learning) to evaluate corporate ESG signals. Integrating cloud-based platforms, vector databases, and production pipelines to translate research into scalable, real-world decision-making tools.
- **Research Assistant, SoilX Lab – WPI (2022–2024)**
  Developed AI pipelines for soil analysis using simulated Ground Penetrating Radar (GPR) data. Designed deep learning models (CNN, LLMs) for subsurface feature extraction. Focused on transforming sensor data into interpretable insights, improving irrigation in mega-farms. Integrated multi-modal data (satellite, radar, IoT) for predictive modeling.
- **Data Science Intern, Platute (2021)**
  Built personalized NLP-driven tutor recommendation system. Automated engagement scoring and feedback generation using supervised learning models. Piloted model into internal systems using REST APIs.
- **IT and Sales Director, Discover Rome Tours (2015–2018)**
  Applied analytics to boost bookings by 30%. Led website redesign and sales tracking platform. Managed international marketing with multilingual data systems.

Applied Projects

- **ESG-AI Pipeline for Job Postings** (RH Smith School of Business, 2025–Present)
  Developing retrieval-augmented generation (RAG) pipelines for ESG signal detection. Building simulation and data processing frameworks for large-scale job postings. Training ML models to extract, classify, and interpret ESG vectors with cloud-based deployment.
- **LLM-based Subsurface Analysis System** (SoilX Lab, 2023–2024)
  Designed a hybrid CNN + LLM model for GPR signal interpretation. Explored RAG pipelines to surface geophysical insights in natural language. Applied embeddings and vector databases for querying historical simulations.
- **IoT Trust Prediction with Game Theory** (UNT, 2020–2022)
  Modeled trust dynamics in distributed networks using Bayesian learning and reinforcement feedback. Published multiple papers on predictive modeling of system-level behaviors.

- **Kalman Filtering for Tumor Tracking** (UNT, 2019–2020)
  Co-developed a signal fusion model to track tumors from noisy fluoroscopy inputs. Resulted in a published IEEE conference paper and book chapter.
- **LLM-Powered Academic Chatbot** (Prototype, 2024)
  Built a ChatGPT-powered assistant for scientific paper summarization and Q&A. Integrated LangChain with FAISS for document retrieval and OpenAI API for response generation.

Technical Skills

- **Languages:** Python, SQL, PHP, MATLAB
- **LLM Tools:** LangChain, Hugging Face, OpenAI, Ollama
- **Libraries:** scikit-learn, NumPy, Pandas, Matplotlib, PyTorch
- **DevOps:** Git, Docker, VS Code, Ubuntu
- **Databases:** PostgreSQL, MySQL, ChromaDB, Pinecone, Snowflake.
- **Cloud:** AWS (ECS, Lambda, S3), GCP, Microsoft Azure

Publications

- Namdari, H. et al. (2025). *Intelligent Soil Subsurface Characterization via Realistic GPR Data Emulation and Transformation*, submitted to IEEE T-AgriFood Electronics.
- Namdari, H. et al. (2024). *GPR-based Intelligent Multi-Layered Subsurface Soil Moisture Assessment*, IEEE T-AgriFood Electronics.
- Namdari, H. et al. (2023). *Phoenix: IoT Trust Evaluation Using Game Theory*, IoTSMS Conference.
- Namdari, H. (2020). *Tumor Tracking in Dual-Energy Fluoroscopy Using Kalman Filters*, IEEE BIBM.
- Book Chapter: *Image Processing in Bridging Human Intelligence and AI*, Springer Nature, 2020.

Selected Talks

- Drone-borne GPR and AI for Water-Scarcity Solutions, MIT Senseable Lab, 2025.
- AI for Smart Farming, Soil and Water Conservation Society (SWCS), 2024
- Machine Learning for Subsurface Analysis, IEEE Boston Chapter, 2024
- Tumor Tracking and Kalman Filtering, BMES Annual Meeting, 2022

Awards & Honors

- Winner, Kaggle COVID-19 Forecasting Competition, 2020
- TAPIA Poster Scholar, 2020
- Turno Subito Research Fellowship, Italy, 2018
- Paramount International Exchange Scholar, 2021

Languages & Global Experience

- **Languages:** English (Fluent), Italian (Advanced), Kurdish/Persian (Native)
- **Experience in:** USA, Italy, Australia

Volunteering & Interests

- Environmental advocacy, refugee support, outdoor sports (kayaking, hiking)