NAIM **BARNETT**

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AI/ML Engineer | Software Engineer | Robotics & Automation

PROFILE SUMMARY

AI/ML Engineer and product-focused software developer with experience in LLM evaluation, robotics, automation, and mobile application development. Proven ability to design intelligent systems, optimize algorithms, and build production-ready digital products across both research and engineering environments. Combines deep technical expertise with practical systems thinking to deliver scalable, user-driven solutions.

PROFESSIONAL & RESEARCH EXPERIENCE

AI Researcher (NDA-Protected Project)

OpenAI | March 2024 - August 2024

- Designed and generated adversarial and edge-case question sets to identify weaknesses and failure modes in large language models (LLMs).
- Evaluated model responses to complex, ambiguous, and multi-step reasoning prompts across diverse domains.
- Reviewed and benchmarked questions created by other researchers, scoring for difficulty, clarity, and failure exposure.
- Conducted systematic testing of LLM behavior, including reasoning accuracy, instruction following, safety alignment, and hallucination detection.
- Labeled and curated high-quality evaluation data to support model training, validation, and fine-tuning efforts.
- Documented performance trends, common failure patterns, and improvement opportunities to inform iterative model development.
- Worked under strict confidentiality, security, and quality-assurance protocols in a high-stakes research environment.
- Improved evaluation coverage and failure-mode detection by designing diverse prompt sets and high-quality scoring logic.

Tooling Engineer

Lockheed Martin – Missiles & Fire Control| Grand Prairie, TX | June 2021 - Current

- Designed and optimized CAD-based mechanical and automated tooling systems for high-precision manufacturing environments.
- Applied robotics, automation, and control principles to improve production safety, efficiency, and throughput.
- Led onboarding and technical training for new engineers and designers, increasing team productivity and standardization.
- Co-managed performance metrics programs, transforming production data into actionable process improvements.
- Directed Tooling Action Requests (TARs), coordinating cross-team engineering schedules and delivery timelines.

Robotics Engineering Apprentice

Lockheed Martin – Missiles & Fire Control| Grand Prairie, TX | 2021

- Completed a hands-on robotics and automation apprenticeship focused on mechatronics, motion systems, and industrial robotics.
- Designed, tested, and validated robotic subsystems involving actuators, sensors, control logic, and safety interlocks.

- Collaborated with mechanical, electrical, and software engineers to integrate robotic automation into production workflows.
- Gained applied experience in systems integration, compliance, debugging, and performance validation in real environments.
- Built a strong foundation in automation engineering, robotic motion control, and hardware–software integration.

NASA Research Assistant

Trinity University | San Antonio, TX | June 2019 - August 2019

- Selected as one of four researchers analyzing Quasar 2237 using NASA's Chandra X-ray Telescope data.
- Modeled extreme accretion behavior of supermassive black holes to enhance astrophysical simulations.
- Applied statistical analysis, physics-based modeling, and large dataset processing to astronomical research.

TECHNICAL PROJECT EXPERIENCE

Machine Learning & AI Engineering

- Built and optimized classification models using Scikit-learn, improving accuracy through hyperparameter tuning.
- Developed a Multi-Layer Perceptron (MLP) to predict county-level poverty rates using real socioeconomic datasets.
- Implemented and evaluated deep learning architectures using TensorFlow and PyTorch.
- Applied graph algorithms and complexity analysis to measure runtime efficiency and optimization strategies.

AI-Driven Systems & Search Algorithms

- Implemented Breadth-First Search (BFS) and Depth-First Search (DFS) with heuristic optimizations.
- Designed an autonomous AI simulation agent for real-time environment navigation and task execution.
- Engineered image classification pipelines and linear dimensionality reduction workflows.

NLP & Data Engineering

- Built NLP pipelines using NLTK for structured text extraction and semantic data processing.
- Designed scalable data preprocessing pipelines using NumPy and Pandas for ML training.
- Executed SPARQL queries for structured knowledge graph data retrieval.

MOBILE APPLICATION DEVELOPMENT (INDEPENDENT PROJECTS)

React Native • Expo • Supabase • JavaScript • TypeScript

- Designed and developed multiple cross-platform mobile applications using React Native and Expo.
- Built full authentication systems including email OTP verification, session persistence, and secure user onboarding.
- Integrated real-time databases, cloud storage, and API services for user-generated content and messaging.
- Implemented custom UI/UX flows, animations, and navigation systems for production-ready mobile experiences.
- Applied state management, async data handling, error recovery, and performance optimization in live builds.
- Designed apps with a product-first mindset, focusing on usability, scalability, and user retention.
- Delivered functional prototypes demonstrating end-to-end architecture design and production-level implementation.

EDUCATION

M.S. Computer Science (Artificial Intelligence) — Southern Methodist University — August 2025
B.S. Engineering Science — Trinity University — May 2021
Minors: Mathematics & Physics

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript, TypeScript, MATLAB, Java

AI/ML: Deep Learning, NLP, Reinforcement Learning, Regression & Classification

Frameworks: TensorFlow, PyTorch, Scikit-learn

Data: NumPy, Pandas, SQL

Systems & Tools: Linux, Git, CAD (Creo)

Engineering Practices: Model Optimization, Data Pipelines, Robotics Automation, Systems Integration, Algorithm Design, Software Architecture

CERTIFICATIONS

AI Fundamentals Practitioner **-** Lockheed Martin, MFC (2023)

PUBLICATIONS

Barnett, N., Nagrecha, S., Glover, M., Harper, C., Wilson, J., Maher, J., & Larson, E. C. (2025). Generalizing Classification of Pilot Workload: Transfer Learning versus a JEPA-Inspired Transformer Architecture. International Journal of Aviation, Aeronautics, and Aerospace, 12(1). DOI: 10.58940/2374-6793.197