Sami Melhem

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EDUCATION

Texas A&M University   **May 2027**
Master of Computer Science   *College Station, TX*
- **GPA: 4.0**.

Texas A&M University   **May 2026**
Bachelor of Science in Computer Science, Data Science Emphasis Area, Cybersecurity Minor   *College Station, TX*
- **GPA: 3.8**.

EXPERIENCE

Momentum Technologies Inc.   **June 2025 – Present**
R&D/ML Intern   *Carrollton, TX*
- Building PINNs to optimize metal precipitation in Nickel and Cobalt, using Python and cloud infrastructure.
- Applying Agile and Scrum methodologies in a fast-paced, cross-functional tech environment.
- Collaborating with R&D chemists to translate domain knowledge into effective ML model constraints.

Soft Interaction Lab   **March 2025 – Present**
Conversational AI Developer   *College Station, TX*
- Developed conversational AI tools used by **500+** SANE nurses, integrating feedback-driven NLP optimization.
- Enhanced user satisfaction metrics by **30%** through interactive development and rigorous testing.
- Worked in multidisciplinary teams, mirroring real-world product development cycles.

PitchFact   **February 2025 – May 2025**
Data Engineer (Business Operations)   *College Station, TX*
- Built an **ML/LLM pipeline** processing **500+** PDFs weekly, cutting screening time by **40%** for startup evaluation.
- Designed a scoring system with **10+** metrics for startup evaluation accuracy across public and private documents.
- Automated client folder generation, improving interview scheduling efficiency by **25%** through workflow optimization.

INTERA Incorporated   **May 2024 – August 2024**
Data Science Intern   *Austin, TX*
- Created machine learning models to predict environmental impact, improving model accuracy by **30%**
- Streamlined data processing workflows with **Python**, **SQL**, and **ETL Tools**, reducing processing time by **20%**.
- Designed interactive **Tableau** dashboards to communicate insights to technical and non-technical audiences.

PROJECTS

SaveGas   **April 2025 – May 2025**
- Developed a real-time gas price tracking app with secure authentication and location-based services.
- Optimized API calls for **100+** gas stations, providing seamless user experience on desktop and mobile.
- Integrated cloud-based backend for scalability and reliability.

Exped Browser   **January 2025 – April 2025**
- Built an Electron desktop app that can support **10,000+** users across Apple, Windows, and Linux devices.
- Reduced navigation time by **40%** using advanced keyboard shortcuts and UI optimizations.
- Implemented local AI-powered summarization for privacy and efficiency.

Autonomous Vehicle Simulation   **August 2024 – December 2024**
- Built autonomous vehicles in **CARLA** simulator, integrating LiDAR/Camera sensors for object detection of **80%** accuracy.
- Developed navigation algorithms like (**A***, **RRT**, **IDA**) with real-time data visualizations in **Tableau**.
- Implemente ML models (**Faster R-CNN**, **YOLO**), using **PyTorch**, improving navigation precision by **25%**.

Panda Express POS System   **October 2024 – December 2024**
- Developed a full-stack POS system using **React.js**, **Node.js**, and **PostgreSQL** for role-based access control.
- Integrated real-time weather API for dynamic UI theming and enhanced user experience.
- Reduced cashier processing time by **30%** through responsive design and secure order management.

LEADERSHIP

Carnival of Animals – Vice President   **January 2024 – Present**
- Managed a **$2000 budget** and authorized contracts for **50+** performances at churches, weddings, and exclusive venues.
- Organized and led weekly jam sessions for **60** members, fostering musical collaboration and leadership.

TECHNICAL SKILLS

Languages: **Python**, **Java**, C++, **JavaScript**, **SQL**, **HTML**, **CSS**, Go, Rust, R, TypeScript
Frameworks: **React.js**, **Node.js**, **Express.js**, Flask, Dash, Django, Spring Boot, **Next.js**
Data Science: Pandas, Scikit-learn, TensorFlow, PyTorch, NumPy, Matplotlib, Plotly, OpenCV, Excel
AI/ML: Object-Oriented Programming, Model Optimization, NLP, Multi-Agent Systems, LLM Architecture
Tools: **Git**, Docker, Selenium, Jenkins, Postman, Electron, Jira, Confluence, Vercel, Power BI, Tableau, RESTful APIs, Cursor
Databases & Cloud: **MySQL**, **PostgreSQL**, NoSQL, AWS, GCP, Azure, **Salesforce**, Linux, IPFS, Cloud Infrastructure
Methodologies: **Agile**, Scrum, SDLC, CI/CD, Feature Engineering, **Data Pipelines**, Statistical Modeling, A/B Testing