

# XANDER SCANNELL

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## Summary

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Mechanical Engineering junior at the University of Michigan-Dearborn with strong technical skills in CAD modeling, MATLAB, and Python. Experienced in leading teams and managing operations as a Building Manager, with proven ability to solve problems and communicate effectively. Seeking an internship with Ford to apply engineering knowledge, technical expertise, and leadership skills to real world automotive design and development projects.

## Education

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### University of Michigan-Dearborn

*Spring 2027*

*Bachelor of Science in Mechanical Engineering*

**Scholarships:** Destination Blue Scholarship, Michigan Achievement Scholarship

**Relevant Coursework:** Engineering Materials & Dynamics, Computer Science, Manufacturing Processes

## Technical Skills

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- **Engineering Tools:** Autodesk Fusion360 (3 years), MATLAB (2 yrs)
- **Programming:** MATLAB, Python, HTML, LaTeX
- **Other:** Prototyping, 3D printing, Raspberry Pi integration

## Projects

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### AI Teaching Assistant for Engineering Course

- Developed a full-stack AI Teaching Assistant using a Retrieval-Augmented Generation (RAG) architecture with Python, Flask, and LangChain to answer course-specific questions.
- Engineered a data ingestion pipeline to process course documents (PDFs), vectorize text and image summaries using Google AI models, and store them in a FAISS database.
- Implemented features including contextual conversation memory, source citation, and Visual Question Answering (VQA) in a web-based interface.

### E-ink Display Picture Frame

- Engineered a fully offline digital picture frame using a Raspberry Pi Zero 2 W and a 7.3-inch, 7-color ePaper display for ultra-low power consumption.
- Developed a modular software suite in Python to automatically detect an SD card, process images, and manage a randomized, timed display refresh cycle.
- Designed and 3D-printed a custom enclosure in Autodesk Fusion360 to house all electronic components in a clean, integrated final product.

## Activities & Interests

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- Passionate about automotive mechanics, including engine diagnostics and performance tuning on personal vehicles.
- Actively engaged in home-based engineering projects, exploring electronics and mechanical design.

## Professional Experience

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### University Unions & Events - University of Michigan

*Dec 2023 - Present*

*Building Manager*

- Lead and coordinate a team of operations staff, ensuring timely and accurate event setups.
- Act as the primary client contact, resolving issues and ensuring smooth campus events.
- Manage administrative processes, including student ID creation and front-desk support.

*Further professional experience available upon request.*