

Arriza Wibowo

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Computer Science sophomore at Western Michigan University with experience in system administration, IT support, and full-stack web development. Skilled in managing computing environments, deploying software and device images, and automating tasks with Python. Proficient in building dynamic applications using frameworks like the T3 Stack and Django. Proven ability to lead projects, troubleshoot effectively, and deliver practical solutions in both technical and academic settings.

Skills

- **System Administration & IT Support:** Windows and lab PC management, Active Directory migration, license server administration, imaging and deployment using Clonezilla, Absolute Software, device onboarding/offboarding.
- **Web Development & Frameworks:** T3 Stack (Next.js, TypeScript, Tailwind CSS, tRPC, Prisma, NextAuth), Firebase integration, CRUD operations, dynamic event management, responsive UI design.
- **DevOps & Deployment:** Image server setup, web portal development, site deployment, version control (Git), workflow documentation.
- **Programming & Scripting:** Python (automation, user profile management, exception handling), JavaScript/TypeScript (React, Next.js), Django (web development).
- **Database & Data Management:** Firebase, Prisma ORM, relational database concepts, event storage and retrieval, spreadsheet tracking for asset management.

Experience

Co-Founder

2026 - Present

Electric Trident LLC, Grand Rapids & Kalamazoo, MI

- Co-founded a software consultancy with a fellow WMU student, offering end-to-end services structured around three pillars: **Business Requirements & Scope, Development, and IT/Maintenance.**
- Engage directly with clients to gather requirements, define project scope, and deliver fixed-price or retainer-based solutions ranging from marketing sites to full web applications.
- Provide ongoing infrastructure support, maintenance, and **fractional CTO** services for early-stage teams and small businesses across West Michigan.

Research Programmer

September 2025 – January 2026

Dr. Hexu Liu Research Team At WMU, Kalamazoo, MI

- **AI Revit Copilot – Revit Automation Extension (Revit API, LLM Integration, RAG, Python)**
 - Designed a modular system that translates natural language commands into safe, validated Revit API actions.
 - Implemented **context extraction** and **prompt composition** to make the AI aware of real-time Revit model state.
 - Migrated the extension UI from modal to modeless by refactoring Revit-API operations behind the ExternalEvent pattern, enabling users to keep working in Revit while automations run safely within Revit's required API context (avoids "invalid API context" failures and UI blocking).
 - Implemented **Rule-Based Generation of 3D Models.** By extensive research of the Revit documentation, the LLM uses a strict "Rules" file to recognize keywords like wall, floor, ceiling (and other structures) and require certain parameters for each keyword (like length, height, thickness) from the user's prompt, as specified in the Rules file before generating the 3D models.
 - Logged all actions and outputs through a feedback and auditing pipeline for transparency and debugging.

Web Developer

March 2025 - Current

Developer Club At WMU, Kalamazoo, MI

- **Developer Club Website – Events Feature (T3 Stack: Next.js, Firebase, TypeScript, Tailwind CSS, tRPC, Prisma, NextAuth)**
 - Designed and maintained the Events functionality for the club's official site.
 - Integrated Firebase to store event data and implemented full **CRUD (Create, Read, Update, Delete)** operations.
 - Used React and CSS to dynamically render current year's events.
- **Client Project – Town of Berwyn, Illinois (Django Framework)**
 - Independently built a modern community website with an events calendar, newsletter signup, and secure admin panel.
 - Enabled non-technical admins to update site content without modifying source code by secure admin page.
 - Currently preparing deployment, securing a **\$600 client donation** to the club upon launch.

System Administrator

January 2025 - Current

Western Michigan University College Of Engineering, Kalamazoo, MI

- Administer and maintain engineering college software across student labs, faculty offices, and research systems via centralized license servers.
- Create, customize, and deploy standardized PC and laptop images using Clonezilla and college image servers.
- Design and manage specialized system images for faculty research and lab environments with unique software requirements.
- Tasked with the migration of college-owned devices to Active Directory, enabling secure role-based user profile management for students, faculty, and staff.
- Provide IT support for software licensing, installation, and troubleshooting across labs, faculty, and staff devices.
- Manage onboarding and offboarding of faculty/staff devices, ensuring secure configuration and compliance.
- Oversee maintenance and support of engineering college PC systems, including labs, offices, and specialized research machines.

Computer Technician/Support

June 2023 - April 2025

Kalamazoo Valley Community College, Kalamazoo, Michigan

- **Special Projects (assigned by manager)**
 - Developed a **Python script** to automate user profile cleanup on college-owned Windows systems, with error recovery, robust exception handling, and detailed logging.
 - Oversaw **re-imaging of 500+ loaner laptops** each semester, coordinating with departments and tracking devices by serial number and asset tag.
 - Set up and maintained **computer classrooms and lab stations** in the Dental Hygiene Building, including hardware inspection, cable management, and ethernet labeling before each semester.
- **Daily Support & IT Operations**
 - Provided technical support for user accounts, Microsoft Office, wireless connectivity, and devices via phone, email, and in-person.

Education

Bachelor of Science in Computer Science Expected in April 2028

Western Michigan University, Kalamazoo, MI

- Global Education Undergraduate Merit Scholarship Recipient. Awarded \$10,000 per year up to 4 years.
- 4.0 GPA

Projects

- **GRADUAI – AI DEGREE PLANNING COPILOT.** Building an AI-powered degree-planning web app that parses DegreeWorks audit PDFs into a structured requirements dashboard. Features an LLM chat assistant with retrieval-augmented context (audit + catalog + prerequisites) and a drag-and-drop semester plan builder with shareable links.
- **TWEETER – TWITTER CLONE (DJANGO).** Built a full-featured Twitter clone using **Django, Python, Bootstrap 5, and jQuery**. Implemented a custom user model, full CRUD via **class-based views** with authorization mixins, AJAX like/unlike toggling, a comment system, and public/private user profiles. Wrote automated tests and configured deployment with **Gunicorn/WhiteNoise**.
- **GAME SHOP INVENTORY – DATA MANAGEMENT APP (MWC3 COMPETITION).** Developed a Python data management application with both **Tkinter GUI and console** interfaces for managing inventory records. Built **pandas-based** data operations with CSV import/export, live search filtering, sortable data tables, and full CRUD functionality.
- **COMMUNITY WEBSITE OF THE CITY OF BERWYN.** Developed a modern community website for the Town of Berwyn, Illinois, using **Django, Python, HTML/CSS, and JavaScript**. Implemented a dynamic **events calendar**, newsletter signup, and a **secure admin interface** for non-technical content updates. **\$600 client donation** was given to the Developer Club upon completion.
- **YTSAVE – YOUTUBE MP3/MP4 DOWNLOADER (HACKATHON).** Built a full-stack YouTube downloader web app using the **T3 Stack (Next.js 15, TypeScript, Tailwind CSS, tRPC 11, Prisma 6, NextAuth v5)**. Implemented a type-safe **tRPC API layer** with Zod validation to fetch video metadata, spawn background **yt-dlp/FFmpeg** download processes via Node.js `child_process`, and stream files to the browser. Designed a **shadcn/ui** front-end with format/quality selectors and real-time progress tracking via **SQLite/Prisma** and React Query.