MAKAYLA MCKINNEY

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EDUCATION

The University of Tennessee, Knoxville   Graduation: May 2025
Bachelor of Science in Computer Engineering
Bachelor of Arts in Modern Languages and Literatures (German Concentration)

EXPERIENCE

Electro-Mechanical Inc   Bristol, TN / On-Site
Programming Engineer Technician   December 2024 – Present
- Developed and introduced control for conducting Mechanical Switch C/O Operation Testing using SEL-849 Relay and SEL-3421 HMI. Implemented automatic and manual mode, operator safety features, and drafted proposal for future improvement. Used AutoCAD LT to create wiring and block diagrams. Used Ladder Logic, Truth Tables, and SELogic in AcSELerator to program relay.
- Designed and integrated Database of Test Reports, Test Data, Inspection Reports, and Standards Protocol using Microsoft Excel, Microsoft Forms, Power Automate, and Java. Logged contents and location of 400 documents.
- Experimented with Rockwell and Allen-Bradley components while implementing database to store functional off-book spare parts.

University of Tennessee Knoxville / Vol Study Center   Knoxville, TN / Hybrid
Peer Learning Assistant / Undergraduate Tutor   November 2022 – Present
- Offered STEM coursework, including MATLAB and C++, for undergraduate students via 1-on-1 30 minute or 1 hour study sessions. Led lecture-based "Review Rally" pre-exam study sessions lasting 2.5 hours.

Electric Power Research Institute (EPRI)   Knoxville, TN / Hybrid
Student Software Developer / Integrator   May 2023 – September 2024
- Full-Stack development experience using Microsoft SQL, C# with RESTful API, and VueJS Javascript Framework to develop key pages of proprietary webtool. Authored comprehensive training material presented to subscribed vendors detailing V4.0 details and use instructions.
- Member of internal WATTS UP Toastmasters and Technical Women's Network. Recipient of Toastmasters Rookie of the Year award 2023.

SOFTWARE PROJECTS

N/A (Self-Project)   Knoxville, TN
Developer   September 2024 - Present
- Personal Portfolio Website including stylized Landing Page, casual about section, CV and skills, and project showcase. Occasionally hosts temporary documents for students during review rallies @ Vol Study Center. Hosted through Netlify on GoDaddy Domain. Designed with VueJS.

University of Tennessee Knoxville   Knoxville, TN
Free Food Group Administrator / Moderator   November 2024
- Full-Stack web solution to avoid spam/bots in campus-wide groupchat for free food events on campus.
- Features include User accounts with hashed passwords, comment and voting system, and map marking.
- Backend with MongoDB hosted on Render. Frontend with VueJS hosted through Netlify. Used NodeJS with RESTful API. Used ARCGis API for map to find and share free food.

University of Tennessee Knoxville   Knoxville, TN
Machine Learning Student   August 2023 – December 2023
- Researched and developed Machine Learning model to detect credit fraud. Model written in Python implemented Random Forest Algorithm with Ada Boosting. Achieved 99% accuracy. Results analyzed further on academic poster.

University of Tennessee Knoxville   Knoxville, TN
Cyber Security Student   August 2023 – December 2023
- Clone of Canvas website to practice SQL Injection, SHA-256 hashing, and malicious downloads to attack users and harvest user data. Deployed with Apache Server, created using wget (Invoke-WebRequest alias) in Powershell

Deutsche Bank   Cary, NC
Inaugural Deutsche Bank Hackathon Invitee   October 2024
- Challenged to implement innovative reimagination of Credit Score Calculation. Project duration was limited to 7 hours. Developed website using AngularJS, Microsoft SQL, and Python.

Knoxville Minx   Knoxville, TN
Rugby Player / Volunteer   October 2024
- Python Solution for soliciting local businesses for fundraising purposes without generating spam content.
- Searched for emails associated with businesses using google API, saved the emails into Google Excel. Logged both email and source of email to simplify human check. After human interaction to verify all emails are correct, a script will send an email to all emails in the excel sheet with a personalized message.

University of Tennessee Knoxville   Knoxville, TN
German Cinematic Cities Student   April 2023 – May 2023
- Used HTML/CSS/Javascript to build a webpage that explores the role of SO36 club in cinematic Berlin through the filmspace of the 1984 film "Decoder." Website deployed on Github.

University of Tennessee Knoxville   Knoxville, TN
Software Engineering Student   April 2023 – May 2023
- Rugby Game Engine with run/chase and collision mechanics, Start/pause menu, and timed play. Developed in Godot Engine as part of larger game. Experienced Agile Methodology including scrums and sprints.

HARDWARE PROJECTS

University of Tennessee Knoxville   Knoxville, TN
Senior Design Student   August 2024 – May 2025
- Created Wearable Allergy Alarm using I2C protocol with nRF52 bluetooth SoC and environmental/health sensors. Device will connect via Bluetooth to communicate with full-stack mobile app hosted on Google Firebase. Used Arduino IDE, Arduino, and Adafruit to program device. Used Fusion360 to design PCB.

University of Tennessee Knoxville   Knoxville, TN
Embedded Systems Student   August 2024 – December 2024
- Utilized ARM Cortex M4 Texas Instruments microcontroller to implement PIP-Boy from Fallout Franchise. Written in C. Achieved Finite State Machine to play 4bit tracks, display weather information, display time, and have explicit resting screen.

University of Tennessee Knoxville   Knoxville, TN
Digital Logic Design Student   August 2023 – December 2023
- Utilized Field Programmable Logic Array (FPGA) Basys3 board with VHDL to create Automatic Hydroponics System. Achieved nutrient solution dispensability, water aeration, and grow light toggling

LEADERSHIP

German Club @ The University of Tennessee Knoxville   Knoxville, TN
Vice President   May 2023 – August 2024
- Created and maintained German Club Social media and developed relations with German Department at the University.

Womens' Rugby Football Club @ The University of Tennessee Knoxville   Knoxville, TN
Recruitment Chair   May 2023 – August 2024
- Recruited new players and ensured retainment of rookies.

Tennessee Lunabotics @ The University of Tennessee Knoxville   Knoxville, TN
Electrical Design Lead   July 2021 – September 2023
- Led team of interdisciplinary students to design and develop hardware for lunar rover's mining mechanism, drive train, and autonomous onboard computer for NASA's Robotic Mining Competition