

Makayla Mckinney

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Education:

B.S.E, Computer Engineering

Expected Graduation: May 2025

University of Tennessee Knoxville, Knoxville, TN

Relevant Coursework: Embedded Systems Design, Introduction to Machine Learning, Introduction to Cybersecurity, Digital Systems Design, Signals and Systems, Electronic Devices

B.S.A, Modern Foreign Language and Literatures (German)

Expected Graduation: May 2025

University of Tennessee Knoxville, Knoxville, TN

Relevant Coursework: Advanced German Language IV, Multilingualism in German Speaking Europe, Cinematic Cities: Berlin

Professional Experience:

Electric Power Research Institute, Knoxville, TN

May 2023 – September 2024

Student Software Developer/Integrator

- Developed a full-stack web tool using Azure App Services and Azure SQL Database to provide scalable, cloud-hosted solutions for industrial power quality issues. Reduced user clicks and wait-time.
- Key Technologies: SQL (Database Optimization, Data Manipulation, Report Generation), C# (Scalable Backend Systems, API Integration), Vue.js (Dynamic user-friendly interfaces)
- Internal Memberships: Watts UP Toastmasters, Technical Women's Network

Arnhem Postal History, George Mason University, Fairfax, VA

September 2023 – April 2024

Data Entry Keyer

- Transcribed historical postal documents from German-Occupied Netherlands into Excel database for backend of Digital Humanities Web Application Project. Worked with complex historical handwriting.
- Key Skills: Microsoft Excel, German Language, Database Keyword Optimization

Student Success Center, University of Tennessee, Knoxville, TN

November 2022 – Present

UT Peer Learning Assistant (Tutor)

- Tutors in math, engineering, and German Language, ensuring success in supportive learning environment.
- Courses Offered: Math, Engineering, Computer Science, German, Statistics

Projects:

Foodify: Free Food Finder (Personal Project)

November 2024

- Developed full-stack website to help University of Tennessee students locate and share free food events. Offered alternative to Groupme compromised to Attackers.
- Enhanced personal understanding of full-stack development, cloud deployment workflows, and database security
- Tools: NodeJS, MongoDB, and VueJS

FPGA Aquaponic Tank (University of Tennessee)

November 2023

- Led team to develop aquaponics system using Artix7 Basys3 FPGA to circulate water consistently for plant care, using VHDL for motor control and data storage. Able to cycle water through tank using stepper motor and FPGA.
- Tools: VHDL, Vivado

MATLAB Voice Recognition Model (University of Tennessee)

May 2024

- Developed voice recognition model using convolution and kernels, achieving 44.46% accuracy by processing audio files and lookup table.

Extracurricular Activities:

Lunabotics (University of Tennessee)

July 2021 – September 2023

Electrical Design Lead

- Led a team of interdisciplinary students to design and develop the hardware for a lunar rover's mining mechanism, drive train, and autonomous onboard computer for NASA's Robotic Mining Competition. Progressed to last round.

Technical Skills:

Programming Languages: Java, C++, C, C#, SQL, MATLAB, ARM Cortex Assembly, VHDL, Scripting (Bash/Shell/PowerShell)

Web Development: HTML, CSS, JavaScript, VueJS, EmberJS, NodeJS, AngularJS, REST APIs

Other Tools and Skill: SQL, Database Optimization, Data Manipulation, Python Packages (NumPy, Sci-learn, Pandas, TensorFlow), Fusion360, SPICE, OnShape, AutoCAD