Joseph Kifle

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Education

University of Tennessee, Knoxville, Tickle College of Engineering | Expected May 2028
Bachelor of Science in Computer Science, Minoring in Data Science | GPA: 3.86/4.00 | Dean's List: 2/2

- Extracurriculars: National Society of Black Engineers (Freshman Liaison, Communications Chair, Programs Chair, Regional Public Relations), NAACP (Treasurer), Brothers United for Excellence (Event Planning Chair), Student Trained Admission Representative (Student Representative)
- Relevant Coursework: *C++, Data Structures & Algorithms, Computer Organization, Discrete Structures, Linear Algebra, Discrete Structures, Probability and Random Variables*

Technical Skills

Certifications: Google IT Automation with Python, IBM Machine Learning (In progress), Google Project Management (In Progress)
Languages: C++, Python, JavaScript, C#, HTML, Assembly, SQL, Lua
Frameworks/Tools: Firebase, React, MongoDB, Firestore, Node.js, Sci-kit Learn, PyTorch, Tailwind, Graphic/Video editing
Developer Tools: Jira, GitHub, VS Code, Jupyter, VIM, AutoCAD, Microsoft Office,
Soft Skills: Agile Methodology, Financial Planning, Leadership & Initiative, Collaboration & Teamwork, Communication, Adaptability, Organizational Skills

Professional Experience

Hack4Impact | Knoxville, TN
Software Developer | August 2025 – Present

- Currently working in a cross-functional team using Agile methodology to develop a volunteer registration and management system with tiered permission roles, enhancing efficiency and role-based access control.
- Building and maintaining a web application for Thrive in Knoxville using Python/Django and React to support youth mentoring and after-school programs.
- Delivering scalable backend systems and intuitive interfaces to improve engagement and streamline program operations.

Middle Tennessee State University | Murfreesboro, TN
Research Assistant | June 2025 – August 2025

- Independently built a Python-based RGB pixel intensity analysis pipeline using OpenCV and NumPy, achieving >95% accuracy in estimating plasma surface temperature through statistical modeling.
- Automated data extraction and implemented scalable validation scripts, reducing manual analysis time by 70% and increasing experimental throughput.
- Engineered an automated file compression pipeline that reduced over 8TB of storage usage, cutting data storage costs and accelerating workflow efficiency by 30%.
- Conducted laser-induced plasma experiments applying Stefan–Boltzmann and Wien's Displacement Laws for quantitative temperature estimation.

Middle Tennessee State University | Murfreesboro, TN
Teaching Assistant | July 2025 – August 2025

- Guided high school students through experiment setup, data collection, and computational analysis, reinforcing problem-solving and technical accuracy in STEM research.
- Mentored participants on technical workflows and academic development, fostering skills in data-driven inquiry and collaborative learning — resulting in a 100% project completion rate among the cohort.
- Translated complex biophysics concepts into clear, accessible explanations, demonstrating ability to communicate technical material to diverse audiences.

Projects

Pixel-Based Irradiance and Temperature Estimator | Summer 2025
Python, OpenCV, NumPy, Pandas, Matplotlib, Tkinter

- Developed a Python application to extract and analyze video frames for light intensity patterns using OpenCV and NumPy, supporting scientific and performance-based video analysis at MTSU.
- Integrated an interactive Matplotlib-based heatmap viewer with a progress slider to visualize frame-by-frame intensity changes post-analysis.
- Automated the extraction and cleanup of temporary frame files, optimizing disk usage and improving workflow efficiency.
- Applied mathematical modeling, including Stefan–Boltzmann and Wien's Displacement Laws, to translate raw experimental data into actionable, quantifiable insights.

Personal Expense Tracker | Summer 2025
React, Firebase, Firestore, Plaid, Tailwind CSS, Chart.js

- Independently developed a full-stack web application over a 6-week period to track and categorize daily expenses, featuring real-time data synchronization via Firebase Firestore.
- Implemented Firebase Authentication for secure user registration, login, and personalized expense history access.
- Integrated Plaid API to securely link user bank accounts and automate transaction imports into Firestore for real-time tracking.
- Added dynamic category/date filtering and interactive budget visualizations using Chart.js.

Honors

Above and Beyond Award	National Society of Black Engineers
Deloitte Foundation Scholarship	Deloitte Foundation
Rocky Top Presidents Institute	University of Tennessee
Cook Grand Challenge Honors Program	Tickle College of Engineering
James Moreland Scholarship Recipient	Tickle College of Engineering