

Elias Lopes

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EDUCATION

North Carolina Agricultural & Technical State University, Greensboro, NC
Major: Honors Bachelor of Science in Computer Science, Cumulative GPA: 3.93, Major GPA: **4.0 Expected December 2027**
Awards/Honors: Chancellors List, E-Scholars Scholarship, **5x Hackathon 1st Place** (HackNCAT 8.0, JPMORGAN Data for good, Atlanta HBCU Game Jam, D.R.E.A.M.S Collective Hackathon, UNC Chapel Hill Afro-Pix Hackathon)
Leadership & Involvement: Technical Lead w/*Google Developer Group*, Solutions Architect w/*D.R.E.A.M.S Collective*

TECHNICAL SKILLS

Technologies & Programming Languages: Python, C++, Java, TypeScript, JavaScript, Node.js , Express.js, SpringBoot, React.js/React Native, TailwindCSS, Firebase, MySQL, ASP.NET(C#), Git, Perforce, Amazon Web Services (AWS)(EC2, Bedrock, RDS, S3, EKS, ECR), Docker, Kubernetes(K8), Github Actions, Jenkins, NGINX, Java Swing, JavaPOS
Certifications: Google Cloud Digital Leaders Certification, Dell Generative AI Foundations Certification, Coursera Object-Oriented Programming in Java, IBM Design Thinking Badge, AMIE Design Practitioners Badge

WORK EXPERIENCE

System Software Engineer Intern @ NVIDIA Santa Clara, CA
Modular Diagnostic Software Team | GPU-MODS Team May 2025 – August 2025, Incoming May 2026 - August 2026

- Repaired a **Python-based** regression triage tool using binary search to identify breaking changelists, replacing a slow manual process done by engineers previously.
- Integrated a file access protocol library for reliable internal build retrieval, including modular branch support.
- Developed a **C++** hardware test for next-gen GPU bring-up to detect silicon die-level defects like cracks when manipulating a specific hardware register's bits.
- Built a dynamic web tool (**HTML, CSS, JS**) for visualizing performance data, enabling engineers to filter, compare, and share results across various configurations.

CHEC Software Engineer @ Toshiba Global Commerce Solutions Durham, NC
Hardware Development Team | Checkout Environment Consumer Services January 2026 – Present

- Developed **system level Java modules** interfacing with POS hardware device drivers using the JavaPOS library to enhance performance of the self checkout system peripherals.
- Built **Java/Java Swing UI components** for POS terminals, improving usability and workflow efficiency.
- Designed and implemented **diagnostic features** to optimize POS light bar power consumption, reducing hardware replacements for enterprise clients and extending system longevity, saving thousands in maintenance.

PROJECTS

Boir Open Source CLI Tool & Boir Website (C++, CMake, Python, Bash, Docker, React.js, TypeScript, TailwindCSS, Vercel)

- Built an open-source C++ CLI tool that scaffolds Web/Full Stack projects from user-specified CLI arguments (type, options, destination), letting developers focus on business-specific features faster.
- Provides optional developer utilities and wrappers (REST error helpers, service abstractions like AWS RDS/S3, common utils) for flexible use in projects.
- Packaged project templates by converting ZIPs into C++ header files, embedding bytes directly into the executable for single-binary deployment.
- Automated cross-platform builds and releases (Windows x86/x64, macOS Intel/Apple Silicon, Linux) using Docker, shell scripts, and Python, distributed via a React + TypeScript + Tailwind web app on Vercel.

BE SMART Hackathon: Gate City Gigs (React.js, TailwindCSS, AWS EC2, AWS RDS MySQL , AWS Bedrock, MapBox, Redis)

- Developed a platform that helps Greensboro residents discover local gigs and non-traditional job opportunities.
- Integrated AWS Bedrock with Llama and Anthropic models to provide intelligent search and accurate gig matching.
- Built a three-tier architecture with the frontend and backend deployed on separate EC2 instances and a MySQL database on AWS RDS.
- Implemented MapBox to create a 3D digital-twin experience for visually exploring gig locations.
- Added an Anthropic-powered chatbot to assist users with navigation, recommendations, and general support.

D.R.E.A.M.S Collective Official Website (React.js, TailwindCSS, Node.js, MySQL , AWS(RDS, S3, EKS), Docker, NodeMailer)

- Contracted to develop the official website for a STEM-focused educational nonprofit, supporting events, program enrollment, donations, and user inquiries.
- Built a full-stack web application using React.js and Tailwind on the frontend with a Node.js/Express backend.
- Implemented a MySQL database on AWS RDS with Redis caching to improve performance and scalability.
- Deployed and scaled the containerized application using a AWS Elastic Kubernetes Service (EKS) managed cluster.
- Leveraged AWS Simple Storage Service(S3) to store and retrieve static documents and media files.