Alexander L. Archer

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EDUCATION

University of Colorado, College of Engineering & Applied Science — **Boulder, Colorado**
Bachelor of Science, Computer Science — *Expected Graduation, May 2026*
- o **GPA:** 3.5, *Dean's List*
- o **Related Coursework:** Data Structures, Algorithms, Object-Oriented Programming, Software Development Methodologies, Machine Learning, Artificial Intelligence, Data Mining, Data Visualization, Universal Design.

EXPERIENCE

CU Boulder – MS-CS Program on Coursera — **Boulder, Colorado**
Software Development Engineer — *Aug 2024 – Current*
- ● Automated content monitoring for the CU MS-CS program using **Python**, developing tools to extract, validate, and monitor course content, reducing manual oversight by up to 71%, and ensuring content accuracy at scale.
- ● Designed and implemented **Selenium** scripts to streamline grade validation and course management, ensure content quality and reliability, and reduce grade processing time by 77% over manual processing.
- ● Prevented data security risks by designing protocols for safely handling sensitive user data, ensuring compliance with the University of Colorado's data privacy standards, and Coursera's Terms of Service.

Rocky Mountain French Bulldog Rescue — **Boulder, Colorado**
UI Design Lead — *Jul 2024 – Aug 2024*
- ● Improved website accessibility, resolving over 40 issues with screen reader usability, navigation, and access to essential site resources by adhering to user-centered design principles and WCAG accessibility guidelines.
- ● Developed key pages using **HTML**, **CSS**, and **JavaScript**, with accessibility best practices, resulting in 100% of surveyed users reporting improved website usability and visual appeal.
- ● Designed detailed user personas, wireframes, and sitemaps, and conducted thorough interviews with the site owner.

Scrappy — **Boulder, Colorado**
Software Development Engineer — *Aug 2023 – Jan 2024*
- ● Spearheaded the development of a CRUD web app, achieving a performance rating of 97 with Google Insights.
- ● Pioneered **REST API** endpoints using **Python** and **Postman**, significantly improving application scalability, achieving a best practices rating of 100 with Google Insights.
- ● Led a cross-functional team using **Agile** methodologies with consistent goal fulfillment and 100% team satisfaction.

PROJECTS

URL Shortener Service — **Boulder, Colorado**
Software Development Engineer — *Aug 2024 – Current*
- ● Implemented a **CI/CD** pipeline with **Jenkins** to automate testing, **Docker** image builds, and seamless **Kubernetes** deployments, reducing lead time by up to 81.25% over manual testing, integration, and deployment.
- ● Designed and deployed a scalable RESTful URL shortening web application utilizing **Python (Flask)**, and **Amazon EKS**, ensuring rapid, scalable, and reliable access to the service.

NASDAQ Insights & Visualization App — **Boulder, Colorado**
Software Development Engineer — *Jun 2024 – Aug 2024*
- ● Developed a comprehensive stock market analysis tool using **Python**, **Pandas**, and **Plotly**, intuitively visualizing over 11 million data points spanning six decades from the NASDAQ stock exchange.
- ● Engineered responsive charts, multi-stock comparisons, and heatmaps, adhering to user-centered design principles.

LinkedIn Job Market Analysis & Skill Mapping Tool — **Boulder, Colorado**
Software Development Engineer — *Jan 2024 – May 2024*
- ● Developed a data mining pipeline for uncovering and visualizing geographic growth trends, popular skills, and skill sets by industry using **Python**, **GeoPandas**, **Matplotlib**, **SciPy**, **Natural Learning Toolkit (nltk)**, and **Mlxtend**.
- ● Cleaned, validated, and analyzed over 1.3 million LinkedIn job postings, prioritizing the reliability of derived insights.

ACTIVITIES AND LEADERSHIP

CU National Society of Leadership & Success — *Aug 2022 – Current*

Volunteering: Habitat for Humanity Re-Store, Project Linus, Workday. — *Aug 2018 – Current*

SKILLS

Programming: Python, Java, SQL, JavaScript, React, Node.js   **Tools:** Docker, Kubernetes, AWS, Git, Agile, Jira, Xcode