Abi Kusuma

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Objective

Highly driven **Master's** graduate with dual degree in **Computer Science and Cybersecurity** with a perfect **4.0 GPA**, having skillset best suited for developing secure and scalable systems. Seeking to contribute to innovate solutions at the intersection of **AI and Secure Software Development**. **No work sponsorship needed**; employment authorization document (EAD) in hand. Open to Internship/Part-time/Full-time. Open to re-locate.

Education

Master of Science – Computer Science & Cybersecurity	University of Alabama in Huntsville	**4.0**	**GPA**	2022 – May 2025
Bachelor of Technology – Computer Science	SREC	**3.3**	**GPA**	2018 – 2022

Experience

Graduate Assistant (Software Development & Teaching) – *University of Alabama, Huntsville*   Aug 2022 – Dec 2024
- Collaborated on a microservice-based recruitment system to optimize hiring workflows for university departments.
- Improved review productivity by 50%. Worked on faculty collaboration tool significantly improving user experience and code maintenance.
- Instructed 100+ students in Algorithms, Programming courses. Created cloud environments, in-person labs, grading assistance.
- Collaborated with professors to build impactful assignments that elevated work completion rates & spike average scores by 10%.

Tech Stack: React, JavaScript, Redux, REST APIs, AWS, Python, Data Structures and Algorithms, Deep Learning

Software Developer Intern – *Garuna, India*   May 2021 – June 2022
- Developed services that establish a strong online presence to businesses, driving a significant increase in revenue.
- Delivered digital solutions that enhanced product reach, improved user interaction and a strong boost in web traffic.
- Incorporated technologies into development process that boost delivery time by 30% by automated testing.

Tech Stack: React, JavaScript, HTML/CSS, Node.js, Express, Django, Python, Cucumber, REST APIs, Git/GitHub

Projects

AI-Scraper | Python, Playwright, BeautifulSoup, JavaScript
- Engineered a prompt-driven AI scraping pipeline using LLM agents to automate data collection across anti-bot websites.
- Reduced token usage by 80% and increased scraping efficiency, enabling scalable use in data-driven applications like market research.

Go-Get-Gig | Python, NextJS, React, RAG, LangChain, HuggingFace, Vector DB
- Designed an intelligent job-matching platform leveraging retrieval-augmented generation (RAG) and pretrained transformers DistilBERT.
- Integrated real-time job feed ingestion, vector embeddings, and LLM APIs for personalized recommendations.

Sneakers Adda | NextJS, React, Node.js, PostgreSQL, Tailwind CSS, Vercel
- A one stop solution for sneakers shoppers with highly optimized user experience, fresh inventory, and shopping experience.
- Optimized load times and SEO rankings by server-side rendering, caching, database operations, increasing user engagement.

Human Face Emotion Detection | Python, TensorFlow, Keras, CNN, OpenCV, Flask, Docker
- Developed a VGG19-based facial emotion classifier with 90% accuracy, packaged into a Flask API.
- Integrated webcam-based real-time inference enabling applications in wellness monitoring and customer sentiment analysis.

Sentimental Analysis | Python, NLP, TensorFlow, Keras, GloVe, NumPy, Matplotlib
- Built and trained a Bi-LSTM-based deep-learning mode with 300d GloVe integration and an attention block for contextual richness.
- Achieved 88% validation accuracy, tackling severe overfitting issues, and achieving better convergence, resulting top performance in class.

Capstone Project – Jitter Entropy Testing |UAH | Python, Bash, Linux, Docker, Git, NIST SP 800-90B
- Developed an automated pipeline to collect, pre-process and analyze CPU-generated jitter using the Jitter Entropy library.
- Automation with Python/Bash scripts, evaluation across Docker, VM and BareMetal to assess best environmental settings.

Security Evaluation of LLM generated code | UAH | Valgrind, LDRA, AFL Fuzzing
- Assessed memory safety and coding standard compliance of LLM-generated code. Documenting valuable insights.
- Using Valgrind for leaks, LDRA Testbed for CWE 3.4 guideline violations, and AFL for fuzz testing vulnerabilities.

Reverse Engineering Course Projects | UAH | IDA Pro, Ghidra, WinDbg, x64Dbg
- Performed **static/dynamic analysis**. Reversed obfuscated binaries, debugged crash scenarios, and exploited stack overflows.

Technical Skills

Languages: Python, JavaScript/TypeScript, Java, C, SQL
Web Development: React, NextJS, Tailwind CSS, HTML5/CSS3, Node.js, Express, SpringBoot, Django, Flask
Databases: MySQL, DynamoDB, MongoDB, ChromaDB
Security: IDA pro, WinDbg, x64Dbgr, Ghidra | **Cloud:** AWS
Tools & Platforms: Git/GitHub, Linux, JIRA, Figma, Postman, Docker, CI/CD, GitHub Actions, REST APIs, Cucumber.

Certifications

[AWS Certified Developer – Associate](#)