

KEATUM POWELL

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SUMMARY & CORE COMPETENCIES

Highly motivated and proactive Machine Learning Engineer with a strong foundation in Artificial Intelligence, Machine Learning, and Deep Learning concepts, paired with robust Python, C++, and Java programming skills. Proven ability to develop, debug, test, and optimize complex software and AI systems, including extensive experience with Large Language Models (LLMs) and Retrieval-Augmented Generation (RAG). Adept at Agile development methodologies and version control systems like Git, with experience driving innovative solutions. Committed to collaborative teamwork, creative problem-solving, and contributing to mission-driven AI initiatives.

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| • Artificial Intelligence | • Machine Learning | • Deep Learning Frameworks |
| • Neural Networks | • Generative AI | • Large Language Models |
| • Retrieval-Augmented Generation | • AI Training | • AI Automation |
| • LLM Fine-tuning | • LLM Quantization | • LLM Inference |
| • Algorithm Design | • Python | • C++ |
| • Java | • JavaScript | • SQL Databases |
| • HTML | • Agile Development | • Software Development Lifecycle |
| • Cybersecurity | Methodologies | • Docker |
| • PyTorch | • Git | • Public Speaking |
| • Software Engineering | • Software Design | • Version Control Systems |
| • LLMs | • Kubernetes | • Virtualization |
| • CI/CD | • Debugging | • REST APIs |
| • Optimization | • Systems Integration | • Data Analysis |
| • Data Preprocessing | • Data Visualization | • Data Classification |
| • Data Validation | • Project Management | • Requirements Prioritization |
| • Engineering Backlog | • Stakeholder Management | • Problem-Solving |
| Management | • Presentation | • llama.cpp |
| • Communication | • Collaboration | • Teamwork |
| • File Systems | • NoSQL | • NoSQL Databases |
| • TensorFlow | • Goal-Oriented | • JSON |
| • Strategic Thinking | • Azure | • GCP |
| • Monitoring & Logging Systems | • Jira | • Ollama |
| • GPU Computing | | |

EDUCATION/CERTIFICATIONS

Master of Science (M.S.) in Computer Science: Machine Learning & Artificial Intelligence (In progress)

Bachelor of Science (B.S.) in Cybersecurity and Information Assurance -- Western Governors University

- NSA Center of Academic Excellence Recognition
- NSLS: Foundations of Leadership

Coursework towards Transfer to 4-year University -- American River College

Coursework towards Bachelor of Science (B.S) in Computer Science -- California State University Sacramento

ITIL: IT Service Management

CompTIA: A+

CompTIA: Network+

CompTIA: Security+

CompTIA: Project+

LE-1: Linux Essentials

Microsoft Certified: Fabric Analytics Engineer Associate

PROFESSIONAL EXPERIENCE

State of California Department of Toxic Substances Control

Information Technology Associate - Solutions Engineer

July, 2024 - March, 2025

- Led the development and automation of a critical Python-based reporting pipeline, reducing manual developer effort by 40-60 hours per week and enabling developers to focus on core software application development.
- Collaborated cross-functionally with business programs, Office of Environmental Information Management (OEIM) staff, vendors, and consultants to analyze, design, develop, test, and implement robust software applications, ensuring effective and efficient functionality for critical departmental needs.
- Developed, coded, tested, debugged, implemented, and documented complex systems and applications, adhering to high-quality software engineering standards.
- Designed and documented comprehensive system specifications, including prototypes, database schemas, and data flow diagrams, contributing to high-quality software design and facilitating stakeholder reviews.
- Performed in-depth data analysis to support internal and external project requirements, providing critical insights for system improvements and data-driven decision-making.

ScaleAI

Software Development - AI Trainer

February, 2024 - Present

- Performed A/B stress testing on LLMs to determine which models were incapable of producing expected responses with functional and correct code.

- Developed ideal solutions for failed LLM responses, such as correcting the code for basic to complex CRUD applications and correcting the usage of improper algorithms or insecure authentication.

DataAnnotation

Computer Science/Machine Learning/Mathematics - AI Trainer

February, 2024 - Present

- Performed A/B stress testing on LLMs to determine which models were incapable of producing expected responses with functional and correct code.
- Developed ideal solutions for failed LLM responses, such as correcting the code for basic to complex Physics simulations and correcting the LLM's understanding of physics.
- Performed Red Team operations on LLMs to verify ethical boundaries and correct harmful behavior.

PROJECTS

- Functioned as a Scrum Master within an Agile team, delivering an API and UI prototype for an IMDb-based movie search tool, demonstrating proficiency in Agile methodologies and collaborative software development.
- Collaborated as a Student Volunteer Software Developer in an enterprise environment, contributing to an internal organizational tool by developing a user-focused GUI, sorting/categorization features, and extensible functionality, utilizing Jira and Git for DevOps and comprehensive documentation.
- Utilized Python, NumPy, and Pandas to perform advanced data analysis, including preprocessing, regression modeling, and classification model creation, with Matplotlib for data visualization, supporting data-driven AI/ML applications.
- Developed a prototype animal classification system in C++, demonstrating strong programming skills and the ability to manage complex data structures for system design.
- Engineered interactive 2D video games using Java and Cuda C++, showcasing expertise in object-oriented programming, graphics development, and leveraging GPU computing for enhanced performance.
- Designed and implemented a relational database for a gaming application using SQL, including views, materialized views, and triggers, to enable complex data querying and comparisons, demonstrating database management skills relevant to AI data backends.
- Integrated and extended functionalities of Talon Voice control software, including developing commands to interface with ChatGPT models, demonstrating AI integration and customization capabilities.
- Provided technical consultation to developers on software design, recommending optimized sorting and searching algorithms to significantly improve application performance and indexing efficiency.
- Actively trained and fine-tuned AI models in Computer Science, Software Development, and advanced IT concepts through rigorous response validation and editing, enhancing model accuracy and utility.
- Conducted AI model training on independently procured datasets for diverse applications, including Text Classification, Text Generation, and Machine Translation, demonstrating versatile AI development skills.
- Trained AI models specifically on Data Analysis, Data Preprocessing, Data Visualization, Data Classification, and Data Validation techniques, reinforcing expertise in the AI data pipeline.
- Successfully implemented Retrieval-Augmented Generation (RAG) techniques to significantly optimize and enhance the accuracy of Large Language Model (LLM) text output for specific applications.

- Spearheaded the installation and integration of open and closed-source local AI models (e.g., Llama 3.x, Claude 3.5 Sonnet) into existing hardware and software environments using Ollama, preparing AI systems for deployment in disconnected or resource-constrained settings.
- Optimized local LLM inference by configuring MCP servers and designing RAG/CAG database access, focusing on context length and model size to achieve superior inference speed and accuracy, essential for efficient AI Factory operations.
- Installed and integrated the open-source AI Software Engineering Agent 'Devika,' demonstrating proactive engagement with emerging AI tools for enhanced development workflows.
- Conducted iterative testing of AI systems and applications within controlled development environments, including Virtual Machines and Docker Containers, ensuring robust functionality and preparing for disconnected deployments.
- Presented on Artificial Intelligence concepts and applications at an All-Staff meeting for the California State DTSC, demonstrating strong oral communication skills and technical expertise in AI.
- Architected and developed an extensible WebUI application to streamline enterprise-wide LLM inference, incorporating features such as prompt storage, system prompt control, transparent control variables, and on-the-fly local model loading, directly supporting AI Factory toolset development.
- Developed custom CI/CD frameworks and integrated logging systems for automated testing and continuous integration of software and AI systems, ensuring robust and efficient delivery pipelines.
- Engineered and implemented logging systems to rigorously evaluate LLM performance, tracking key metrics like token output per second to optimize model efficiency and stability in AI systems.