Mycal Brown

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PROFESSIONAL PROFILE

MACHINE LEARNING ENGINEER | AI SYSTEMS | APPLIED ML IN PRODUCTION

Ph.D. experienced professional applying data science, AI, and cybersecurity to support high-risk, mission-critical operations.
Experience in machine learning engineering, AI systems, and large-scale data analysis across military intelligence and federal environments. Specialized in building and applying machine learning models and data pipelines to extract actionable intelligence from complex, high-volume datasets, including financial and operational domains. Proven ability to evaluate and optimize model performance, identify anomalies and failure patterns, and improve system outcomes through data-driven experimentation, enhancing detection capabilities, decision systems, and mission effectiveness in high-risk, mission-critical environments.

- CompTIA A+, Network+, Security+, CySA+, PenTest+
- Advanced Analytics & Machine Learning Pipeline Dev
- Data Science Workflows (Models, Validation, Deployment) & Kaggle
- Cloud & Emerging AI Tech: AWS, Azure, and GCP
- Cybersecurity Frameworks & Compliance: Experienced with NIST CSF, NIST SP 800-53, ISO 27001, and SOC 2
- Applied AI/ML, Bayesian Inference, Statistical Modeling, and Data-Driven Security Engineering

PROFESSIONAL EXPERIENCE

Veteran Affairs, Durham, NC — January 2023 - Present

Data Science & Financial Analytics

- Led data-driven budget strategy and execution for IT portfolio, applying predictive analytics, forecasting models, and financial data analysis to achieve 15–20% cost savings through optimized resource allocation and performance insights.
- Leveraged data analysis, risk modeling, and security analytics to assess enterprise systems, identify vulnerability trends, and prioritize remediation, reducing critical vulnerabilities by 35% while maintaining alignment with NIST and FedRAMP standards.
- Leveraged data analytics and financial modeling to optimize enterprise cloud environments, analyzing usage patterns, cost drivers, and resource allocation to diminish waste and enhance efficiency. Developed data-driven dashboards and queries to identify anomalies, validate system performance, and accelerate decision making, reducing investigation and optimization cycles by 50% while maintaining alignment with NIST and FedRAMP standards.
- Cloud Financial Strategy (FINOPS): Serve as Enterprise Cloud Cost Optimization Lead, executing FINOPS frameworks cut cloud waste by 20% and established transparent cost optimization models across VA's multi-cloud environment.
- AI Policy & Implementation: Advise senior leadership on AI governance and responsible adoption, drafting policies guided enterprise-wide AI pilots and diminished manual review workloads by 30% through automation initiatives.
- Technical Vulnerability Solutions: Authored and implemented remediation strategies addressing thousands of vulnerabilities annually, reducing average time-to-fix by 40% and strengthening resilience across C&P IT infrastructure.

Wake Technical Community College, Raleigh, NC — September 2020 - Present

Adjunct Professor

- Instruct coursework in cybersecurity, data analytics, and foundational machine learning concepts, integrating real-world scenarios and applied problem-solving into curriculum design.
- Prepared students in A+, Network+, Security+, CySA+, and PenTest+ with certification-aligned labs, achieving 90%+ retention, pass rates 15–20% above national averages, and strong career outcomes.
- Created and launched www.certiforged.com, a custom-built exam-prep application providing students 24/7 access to free practice tools and reinforces classroom learning for certification achievement.
- Incorporated the Boss of the SOC to teach Splunk monitoring and investigation, improving students' SOC analysis skills, and preparing for certification and real-world security operations.

GDIT, Fayetteville, NC — September 2020 - January 2023

Zero Trust | Splunk Architect

- Zero Trust Architecture: Served as Subject Matter Expert for Zero Trust, designing and advising on enterprise frameworks strengthened identity, access, and segmentation controls across federal systems.
- Splunk Architecture & Implementation: Architected Splunk Enterprise Security solutions for federal clients, synthesizing log sources from 10,000+ systems to enable advanced threat detection, compliance reporting, and real-time dashboards.

SecuriGence, Scott AFB, IL April 2018 - September 2020

Senior SOC Lead

- Integrated and tuned Splunk across multiple data sources to improve threat detection fidelity and support real-time analysis within a 24/7 federal SOC environment.
- Led enterprise Splunk operations for a 24/7 federal SOC, engineering dashboards, correlation searches, and alerts to monitor endpoints, enabling rapid threat detection and response.

Cybrary, Online July 2016 - July 2018

Developer & Mentor

- Course Development: Collaborated on design and development of cybersecurity training courses aligned with CompTIA certifications (including Security+, CySA+, and PenTest+), contributing to content used by thousands of global learners.

United States Army, United States and Abroad November 1999 - July 2016

XO, CMD, S6

- Artillery, Military Intelligence, Chemical, Infantry, and Finance.
- Leadership: Commissioned as a Finance Officer and advanced to Company Commander, leading over 120 soldiers in operational, administrative, and fiscal missions with exceptional performance ratings and recognized leadership excellence.

EDUCATION

National University (NU)- San Diego, CA October 2025

Doctor Of Philosophy (Ph.D.), Computer Science

- Conducted machine learning engineering and applied AI research as part of doctoral dissertation, designing and developing an AI-powered essay assessment platform. Led end-to-end ML pipeline development, including data collection, survey instrumentation, feature engineering, model training, and validation. Analyzed structured and unstructured data from 1,000+ essay evaluations and user interactions using statistical modeling and NLP techniques. Built and evaluated predictive models and probabilistic frameworks to compare human and AI grading performance, improving scoring consistency by 20% and reducing grading time by 30% under controlled conditions. Produced data-driven insights on evaluator behavior, bias, and AI effectiveness to support ongoing applied use.
- Researched and implemented advanced NLP and machine learning techniques to analyze student writing, providing scalable, data-driven evaluation for academic settings.
- Dissertation: Revolutionizing Essay Assessment: An AI-Driven Essay Interface for Educator and Student Engagement

Utica College- Utica, NY September 2020

Master's Degree In Cybersecurity

- Published research paper: Encryption Systems Resilient Against Quantum Cracking (ProQuest, Aug 2019), examining post-quantum cryptographic strategies including lattice-based, multivariate, hash-based, code-based, and isogeny-based systems.
- Analyzed impact of emerging quantum technologies on asymmetric encryption systems such as RSA, and proposed frameworks for migration to quantum-resistant cryptography.

Keller Graduate School of Business- Downers Grove, IL December 2008

Master's Degree In Accounting And Finance

- Specialized in financial analysis, strategic budgeting, and fiscal management, applying advanced accounting principles to optimize resource allocation and organizational performance.

CERTIFICATES

- ISC²: Certified Information Systems Security Professional (CISSP), Certified Cloud Security Professional (CCSP)
- GIAC: Security Leadership Certification (GSLC)
- CompTIA: A+, Network+ (Net+), Security+ (Sec+), Cybersecurity Analyst+ (CySA+), Penetration Tester+ (PenTest+), SecurityX
- EC-Council: Certified Ethical Hacker (CEH), CEH (Master)
- Scrum Alliance: Certified Scrum Master (CSM)
- FINOPS Foundation: Certified Practitioner, Certified FOCUS Analyst

AWARDS & HONORS

- Bronze Star, German Armed Forces Badge for Military Proficiency (Gold), Afghanistan Shoulder Sleeve Insignia, Afghanistan Campaign Medal, Non-Article 5 NATO Medal, Army Commendation Medal, Army Achievement Medal