MATTHEW PRUITT

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PROFESSIONAL SUMMARY

Senior Technical Program Manager and AI Solutions Architect with 10+ years driving enterprise-scale technology programs, AI/ML product development, biometrics solutions, and cross-functional team leadership. Expert in program management, cloud architecture, artificial intelligence implementation, and technical strategy execution. Proven track record managing 700+ coordinated service launches, developing AI-powered automation tools, and delivering complex biometric and computer vision systems for Fortune 500 companies and federal agencies. Currently pursuing Doctor of Engineering in AI/ML while leading AWS European Sovereign Cloud region build.

CORE COMPETENCIES

Technical Program Management | AI Solutions Architecture | Cross-Functional Leadership | Product Management | Cloud Infrastructure | Machine Learning Operations | Agile & Waterfall Methodologies | Stakeholder Management | Risk Assessment | Schedule Optimization | Technical Strategy | System Architecture | API Development | Data Analytics

Technical Skills

AI/ML Platforms: Claude, ChatGPT, OpenAI API, AWS SageMaker, Ollama, PyTorch, TensorFlow, Scikit-learn, AWS Bedrock | **Cloud Services:** AWS (EC2, S3, Lambda, SageMaker, DynamoDB, CloudFront, Bedrock, Kendra), Azure, GCP | **Programming:** Python, SQL, REST APIs, GraphQL, Bash, CLI Automation, Graph Theory | **Infrastructure:** Docker, Kubernetes, Terraform, CI/CD Pipelines, MCP Servers | **Analytics:** Time Series Forecasting, Predictive Modeling, Graph Analysis, Monte Carlo Simulation | **Tools:** JIRA, Confluence, Azure DevOps, Asana, Microsoft Office and Teams, Kiro, Claude Code, VS Code

PROFESSIONAL EXPERIENCE

Senior Technical Program Manager, Region Build

Amazon Web Services (AWS) *| Arlington, VA | February 2025 – Present*

- Lead technical program management for AWS European Sovereign Cloud (THF) region build, orchestrating launch of 780+ component services across 50+ engineering teams with strict EU sovereignty compliance requirements
- Architect and deploy AI-powered automation tools using AWS SageMaker, Bedrock API, and custom NLP models, reducing manual schedule analysis time by 60% and enabling predictive risk identification
- Design and implement Directed Acyclic Graph (DAG) scheduling systems analyzing 3,000+ service dependencies, optimizing critical path through Monte Carlo simulation and statistical risk modeling
- Develop real-time dashboards and automated reporting infrastructure using Python, AWS Lambda, DynamoDB, and CloudWatch, providing actionable insights to executive leadership and cross-regional stakeholders
- Build machine learning models on historical build data for schedule variance prediction and resource optimization, improving forecasting accuracy by 35% and enabling proactive risk mitigation
- Create AI enablement resources and best practices documentation adopted across multiple AWS regions, scaling technical program management capabilities organization-wide

Senior Biometrics Technical Program Manager

ECS Federal LLC (Client: U.S. Postal Service) *| Fairfax, VA | March 2023 – February 2025*

- Spearheaded AI-powered biometric technology roadmap integrating facial recognition and fingerprint processing systems for nationwide identity verification infrastructure serving 35,000+ postal facilities
- Reduced false positive matching rates by 35% through implementation of enhanced machine learning models and optimization of biometric matching algorithms
- Served as technical liaison with FBI Criminal Justice Information Services (CJIS) for AI-based pattern recognition integration and cross-agency biometric data sharing protocols

- Architected NIST-compliant solutions incorporating AI-powered liveness detection, presentation attack detection, and anti-spoofing technologies meeting Federal Identity, Credential, and Access Management (FICAM) standards
- Developed edge computing architecture for on-premises biometric processing, reducing cloud infrastructure costs by 40% while maintaining sub-second response times
- Designed elastic, auto-scaling biometric infrastructure leveraging on-premises infrastructure for USPS handling 200,000+ daily transactions with 99.99% uptime
- Created Cloud Transition plan to help USPS transition their on-premise services to AWS cloud services

Senior Computer Vision Product Manager

Amazon Lab126 (Amazon Devices) *| Sunnyvale, CA | February 2022 – February 2023*

- Led computer vision product strategy and roadmap across Alexa Devices, Astro Robot, and Ring Doorbell platforms, aligning ML capabilities with customer experience objectives and business goals
- Unified CV offerings through standardized machine learning inference pipelines, reducing development cycle time by 30% and enabling rapid feature deployment across device ecosystem
- Conducted market fit analysis using AI-powered analytics tools for customer surveys and competitive intelligence, informing 3-year product vision and $10M+ investment decisions
- Authored algorithmic fairness evaluation framework currently used to assess Amazon's facial recognition systems for bias detection across demographic groups
- Optimized ML inference pipelines for legacy devices, improving model processing time by 25% through quantization, pruning, and hardware acceleration techniques

Senior Product Manager, Biometric Platforms

Paravision *| San Francisco, CA | August 2021 – February 2022*

- Defined biometric API product requirements and neural network architecture specifications, coordinating Research Scientists, Engineering, and QA teams through agile development cycles
- Managed ML model release lifecycle including versioning, A/B testing, performance benchmarking, and production deployment across cloud and edge environments
- Created unified cross-platform SDK supporting Android, iOS, Windows, Linux, and specialized computer vision accelerators, enabling 40% faster customer integration
- Collaborated with government agencies in both the U.S. and U.K. on algorithm performance testing including speed, accuracy metrics, and presentation attack detection for NIST FRVT evaluation

Senior Biometrics Technical Project Manager

ECS Federal LLC (Client: U.S. Postal Service) *| Fairfax, VA | August 2020 – August 2021*

- Architected enterprise-scale biometric identity verification system leveraging machine learning for automated matching and fraud detection
- Provided technical program management for FBI fingerprint integration supporting Identity History Summary Check (IHSC) system processing 200,000+ daily transactions
- Advised stakeholders on NIST SP 800-63 digital identity guidelines compliance, incorporating multi-factor authentication and AI-based risk scoring

Chief Experience Officer (CXO), SVP of Development

VSBLTY Groupe Technologies *| Washington, DC | August 2019 – August 2020*

- Led 15-person engineering team implementing real-time computer vision solutions using deep learning frameworks (TensorFlow, PyTorch), RabbitMQ, OpenVino, and Docker for retail analytics
- Transformed system architecture leveraging Docker containerization and Intel OpenVINO toolkit for optimized AI model inference on low cost edge devices
- Created architecture for multi-point biometric engagements for the customer journey
- Managed web-based design interfaces and metrics, such as impression count, for customers engaging with customized content
- Directed R&D initiatives focusing on neural network advancements, age/gender classification, and object detection for audience measurement applications

Chief Solutions Architect, Federal

NEC Corporation of America *| Washington, DC | May 2016 – August 2019*

- Deployed large-scale biometric solutions for federal customers including DHS IDENT/HART system managing 260M+ identity records with AI-powered matching
- Transitioned cutting-edge ML research from NEC laboratories to production systems, reducing time-to-market by 45% through streamlined technology transfer processes
- Designed ML-based multimodal identity verification solutions incorporating facial recognition, fingerprint, and iris biometrics for government agencies

Principal Solutions Architect, Federal

Safran MorphoTrust USA (now IDEMIA) *| Washington, DC | February 2014 – May 2016*

- Architected Department of Defense Automated Biometric Identification System (ABIS) incorporating advanced machine learning algorithms for multi-modal matching
- Implemented biometric enrollment and verification processes for state and federal biometric programs serving 50M+ registered users
- Developed FIDO-compliant biometric authentication solutions integrating authentication with liveness detection

Senior Biometrics Engineer

The MITRE Corporation *| McLean, VA | May 2010 – February 2014*

- Conducted advanced biometrics research in computer vision techniques, facial recognition algorithms, and machine learning for identity verification
- Enhanced object tracking algorithms in live video feeds using machine learning, improving detection accuracy by 28% for DoD surveillance applications
- Led pioneering research in contactless vital signs measurement (pulse, respiration) from video using computer vision techniques, resulting in published IEEE papers

EDUCATION

Doctor of Engineering (D.Eng.), Artificial Intelligence & Machine Learning

George Washington University | Washington, DC | In Progress (Expected 2028)

Master of Science (M.S.), Computer Science & Engineering

University of Notre Dame | South Bend, IN | December 2013

Focus: Computer Vision and Biometrics | GPA: 3.84

Bachelor of Arts (B.A.), Triple Major

Augustana College | Rock Island, IL | May 2009

Computer Science (3.97 GPA), Mathematics (3.96 GPA), French (3.60 GPA) | Cumulative GPA: 3.77

AWARDS & RECOGNITION

- Program Recognition Award for Automated Face Detection and Recognition (AFDAR), Department of Defense, MITRE Corporation (2011)
- CTSI Predoctoral Training Award in Translational Research, University of Notre Dame (2012-2013)
- Graduate Assistance in Areas of National Need (G.A.A.N.N.) Fellowship, University of Notre Dame (2010-2012)
- Chair, Advances in Biometric Technology Working Group, International Biometrics + Identity Association (2017-2019)
- Adjunct Professor, Biometrics, George Mason University (2017-2018)

SELECTED PUBLICATIONS & PRESENTATIONS

- Phillips, P.J., Flynn, P.J., Bowyer, K.W., et al., & Pruitt, M. (2011). "Distinguishing identical twins by face recognition." IEEE International Conference on Automatic Face & Gesture Recognition

- Pruitt, M.T., Grant, J.M., Paone, J.R., et al. (2011). "Facial recognition of identical twins." International Joint Conference on Biometrics
- "Using Facial Recognition to Secure the Homeland and Enhance Customer Experience" - Federal News Network (October 2018)
- "Next Generation Travel: Using Facial Recognition to Enhance and Secure the Customer Experience" - Hotel Technology Next Generation (October 2018)