Michael Eaton

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Professional Summary

Founder & Director, AMDG Technologies, Inc. — *Inspiring Technology, for Good.*

20+ years advancing signal processing, state estimation, sensor fusion, and AI/ML across defense, aerospace, biomedical, and scientific domains. Deep roots in medical signal processing (B.S. Biomedical Engineering), missile guidance/tracking, RF geolocation, avionics/EW, and real-time neural net deployment.

Applying rigorous engineering through a greater-good lens (Ad Majorem Dei Gloriam) to STEM education, work-study programs, and defense-adjacent innovation that serves the common good.

Core Competencies

Algorithms & AI — neural networks, sensor fusion, tracking, super-resolution, cognitive modeling, state estimation, Kalman filtering.
Medical Signal Processing — biomedical engineering (pre-med), biometric signals, audio/video processing; USAF School of Aerospace Medicine collaboration.
Guidance & Direction — missile (RF/EO/IR) guidance & tracking, beamforming/DOA, RF SIGINT geolocation, radar (SAR/GMTI).
Engineering & Circuits — FPGA DDCs, avionics/EW integration, embedded/SDR, HWIL, precision systems.
Technologies — Python, C/C++, MATLAB, TensorFlow/Keras, Scala/Rust, JUCE/OpenCV, Docker/Kubernetes/OpenShift, Dask, Linux.

Experience

Founder & Director
AMDG Technologies, Inc., Cincinnati, OH
2013 – Present

- Founded C-corp focused on STEM/work-study education programs + defense-adjacent innovation through a greater-good lens (Ad Majorem Dei Gloriam).
- Led R&D in audio/video/biometric signal processing (JUCE, OpenCV, TensorFlow) and cognitive modeling algorithms; integrated research with USAF School of Aerospace Medicine.
- Directed startup operations including business development, marketing, systems administration, and technical consulting.

Computer Engineer (AI/ML for Sensor Systems)
Northrop Grumman, Orlando, FL
2021 – 2023

- Developed neural network training pipelines and co-developed real-time C++17 neural net inference engine; designed TF/Keras models and enterprise MLOps (K8s/OpenShift/MLflow/Kaniko/AWS) for defense analytics (AFSIM/DIS).
- Product Owner for MLOps in agile setting.

Embedded Software Engineer (Cognitive SDR)
GIRD Systems, Inc., Cincinnati, OH
2019 – 2021

- Built FastAPI/MongoDB analytics + Python SDR signal processing for cognitive systems; led DevOps/HWIL automation for Redhawk-based distributed demos.

Scientific Software Developer

_Quansight / 84.51°, 2016 – 2019

- Verification/ETL for Dask distributed analytics; OSS contributions (Dask, PyArrow, Ibis, Intake). SDLC & Docker envs for forecasting/data science teams.

Electronics Engineer (Avionics & EW)
USAF / AFMC / AFLCMC, Wright-Patterson AFB, OH
2011 – 2013

- Lead avionics sensor engineer for EW/electronic attack on HC/MC/AC-130J special-mission aircraft. Architecture reviews, integration, risk/performance analysis.

Principal Systems Engineer (Radar)
Northrop Grumman, Baltimore, MD
2009 – 2010 - Radar M&S (SAR/GMTI).

Senior Systems Engineer (DSP/SIGINT)
Spectral Systems Inc. (acq. Sierra Nevada), Beavercreek, OH
2005 – 2007 - RF SIGINT geolocation analysis; designed DDC FPGA chains; beamforming DOA & channelizer algorithm analysis.

Systems Engineer II (Guidance & Tracking)
Raytheon Missile Systems, Tucson, AZ
2001 – 2005 - M&S for RF/EO/IR missile guidance, tracking, sensor fusion; EO/IR super-resolution R&D, pattern recognition, discrimination; GPU computing & visualization.

Education

Master of Science – Electrical Engineering
Wright State University, Dayton, OH

Bachelor of Science – Biomedical Engineering (Pre-Med)
Wright State University, Dayton, OH

SPRDE Level II – Systems Engineering
Defense Acquisition University, Dayton, OH

Additional

- **Open Source**: Contributor to Dask, PyArrow, Ibis, Intake and scientific Python ecosystem.
- **Music / Audio Engineering**: Self-taught guitarist & audio engineer (practical DSP application).
- **Endurance Sports**: 6 marathons + 50-mile ultra; disciplined pursuit of challenging goals.
- **Values**: Maximizing human potential and ensuring advanced technology serves the common good.