

JACOB MORGAN

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Austin, Texas

Mission Statement: I'm a hardware focused engineer looking to transition into security

EXPERIENCE

Meta, Hardware Design and Release to Production - Hardware Systems Engineer

April 2025 - July 2026

- Provided HW and SW support for experimental Mi300 Training cluster with 2,000 GPUs, managing internal customers and vendor debug, meeting SLA of 95% hardware availability. Drove spare parts for experimental cluster with Labs
- Drove debug of Mi350/NIC loss of telemetry issue with vendor; deployed fix to production fleet
- Root caused high PCIe error rate failures in prod, identified coverage gap in detections, pushed diff to eliminate irrelevant signals from becoming repairs and harming capacity for healthy hardware
- Drove bringup, debug, and DC triage for Mi455x (Helios), worked with AMD to develop and deploy remote JTAG capability (AMD AVC) and fully remote host recovery in Meta DC
- Root caused NCSI stability on Mi455x platform, resolving bringup blocker where BMC and host lost network connectivity and would require physical reset in datacenter

AMD, Datacenter GPU, At Scale - Sr. Systems Design Engineer

April 2024 - April 2025

- Planned, developed, and scaled automated testing support for MI300, MI235, MI350, and MI355 series AI accelerators
- Developed greenfield automation frontend to enable other teams to ingest test content into server testing automation
- Developed automation and CI pipelines for newly formed team, adding support for versioned test artifacts and configurations

Amazon Web Services, Annapurna Labs MLA - Validation and Verification Engineer

November 2021 - February 2024

- Developed and deployed fleet-wide metrics for Annapurna Labs ML accelerators, giving visibility into failures at scale
- Root caused AWS Nitro control plane crashes on F2 FPGA accelerators, resolving kernel memory space corruption
- Owned manufacturing testing and automation for server level testing of all Annapurna accelerator platforms
- Designed, architected, threat-modeled, and deployed an internal Jenkins instance, using CDK, IAM, S3, EFS and EKS
- Performed validation and debugging on AWS server platforms, from firmware to BIOS, PCIe, and control plane
- Worked with JDM, ODM and internal design teams on cross-boundary triaging, debugging, and resolving issues
- Updated and documented internal tooling and processes, working across teams to bring improve internal dev-ex
- Automated test fixture bringup, configuration, and artifact management, reducing multiple hour setup to minutes, resolving config/artifact drift, and minimizing toil
- Planned, threat modeled, implemented and managed a secure customer development flow for pre-production hardware
- Performed validation on AWS FPGA accelerator cards (EC2 F1 instance type)
- Identified hidden runtime failures, developed metrics to identify them, and deployed the fix to 1 million plus servers

Texas A&M University System, Security Operations Center - Network Analyst, College Station

Jan. 2019 - July 2021

- Monitored network for malicious activity and respond to events as part of an Incident Response team for entire TAMUS, which includes 11 universities and 8 partner agencies
- Led project to automate classification of known behaviors and provide enhanced information to network analyst team, reducing toil and increasing accuracy (Threat Intel matching with Cisco Umbrella/Investigate integrating with Vectra AI)

EDUCATION

Texas A&M University - Bachelors of Science in Electrical Engineering, Computer Science Minor

Spring 2021

CERTIFICATIONS AND AWARDS

Cyber Security Support Technician, Apprentice, Department of Labor

August 2021

MITRE eCTF: UAV Package Delivery System, 2nd Place (Team)

Spring 2021

pTFS CTF Team

DEFCON 33 (2025) - 2nd place Spy vs Spy CTF; 3rd place Dungeons at Def Con

DEFCON 34 (2026) - 1st place Spy vs Spy CTF (Black Badge); 2nd place Hac-Man

SKILLS

Programming Languages: Python, C/C++, Lua, Make, ARM64 Assembly/Architecture, Verilog, Bash/shell, JS/HTML, Unit/Integration Testing, CDK/Cloudformation

Operating Systems: Linux (Ubuntu, Debian), Busybox Linux Embedded, BSD, Windows, MacOS

Systems and Software: AWS/Cloud, Atmel MCU, Git, Jenkins CI/CD, Linux Kernel Development, Vivado, NetBox, Ansible, SystemD, Splunk SIEM, Vectra AI, Cisco Umbrella, React

Lab: Device bringup, networking, Soldering and board rework (THT, SMD, Hot-Air), Logic Analyzer, Oscilloscope, VNA, bricked server resuscitation

Interests: Hiking, Camping, Reading, Amateur Radio, Creative-Writing, SCUBA Diving