MICHAEL MATTIE
Security Engineer/Principle Engineer

Seattle Area, WA

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PROFESSIONAL EXPERTISE

25+ years Security and Software Engineering experience

- **Security**
  - **Architected and Developed a static analysis security tool for intelligence agencies**
  - **Worked for a security camera company learning physical security and and camera technologies.**
  - **Worked for AAA for Oracle (Authentication, Authorization, Auditing) building intrusion detection on the control plane of the Oracle Cloud**
  - **Worked AWS infrastructure auditing for AWS Security vended into Capital One Documenting and developing Cloud Infrastructure auditing.**
- **Planning and Management: Leadership, Design, Implementation, Delivery.**
- **Deep Expertise: Security, Python, Java, Perl, Shell, LISP, Linux Command Line.**
- **Enterprise Backend Development:**
  - **Automation**
  - **API/REST interfaces**
  - **Full-stack Development**
  - **Distributed systems, micro-services, serverless, clustering**
- **Cloud Development**
  - **AWS [Architect, Lead Dev] - EC2, Lambda, API Gateway, CloudFormation, CloudWatch, S3**
- **Databases:**
  - **Certificate of Database Management - University of Washington**
  - **Transactional, NoSQL, Data Warehouse, Big Data**
  - **Dynamo, Aurora, Postgres, Microsoft SQL Server, Redshift**

PROFESSIONAL EXPERIENCE

AWS Security for Capital One / **_Python Engineer / (Contract: January – March 2022)_**
"Refined and documented AWS Custodian security auditing".
- Passed an FBI fingerprint background check to work at Capital One.
- Integrated policies authoring remediation documentation discerning source of truth from multiple systems.

Cred.AI / **_Lead Software Engineer / (Full Time: October 2020 – August 2021)_**
"Managed, Designed, Implemented, Deployed, and maintained AWS serverless solutions independently".
- Built a database interface on top of SqlAlchemy that allowed the driver to be reloaded upon errors, wrote a context manager to detect errors in execution and rollback database changes.
- Built a test system that mocked the main database allowing tests to be rapidly performed on the core business logic, verifying side-effects by examining a cheap-to-copy clone of the database. All done on my own initiative
- wrote a build and deployment system introducing dependency isolation and automated tests with tox and pytest.
- Wrote lambdas that performed financial operations on databases and API's.
- Developed a generic re-usable REST API that utilized path matching for multiple handlers, versioning, test interfaces, data mapping, type conversion, safe parsing, secure error reporting, and a graphQL like query backend for GET operations – and it plugged into API Gateway.
- Developed and debugged CloudFormation templates managed in Python.

Amazon NDE - Lead Software Engineer / (contract extended: _April 2019 – Dec 2019_**)**
"Built a prototype full stack service from design to all areas of implementation"
- Designed and developed a micro-service which automates the tracking and reporting of all Amazon network construction, including spans, links, data centers, and predicted failure scenarios.
- Took leadership in full-stack development: including backend REST/JSON API's, command line API's for engineers and the front-end.
- The finished product was a web application that displays network information on a world map and allows users to browse, query, and filter data via drop down menus dynamically populated from the data.
- Utilized the latest technologies including: Python3.6, Flask, Angular 8, Typescript, and SSH. The automation of the Engineer tasks was implemented by scripting SSH interaction with tools and streaming that session to the browser.
- Built a legacy deployment in the backplane at Amazon, and Apollo/Brazil deployment onto dev-desktop, and AWS Native deployment.
- Configured EC2 server, utilized S3 and the Redshift data-warehouse service.
- Migrated Python 2 to Python 3 for legacy libraries and applications.

Oracle / **_Python Developer_** / **(contract extended: _September 2018 –March 2019_)**
"Built a security intrusion detection and audit system with Python and docker, deploying on the Oracle back-plane"

- Wrote a system in Python on the Oracle Cloud in a high-security/high-availability enterprise environment, which gathered user data from across the infrastructure to create auditable reports.

- Auditor monitored reports and created alerts for illegal permissions and detected tampering/intrusion and failures of other access agents.

- Auditor was designed and implemented to work at scale, reading thousands of reports from across the infrastructure and comparing those reports against the state of permissions in the Oracle cloud for the point in time of the report.

- Dockerized Auditor for development and deployment.

- Deployed on the Oracle backplane, using CI/CD and Oracle deployer.

Comcast Technology Solutions /**_Client Solutions Engineer_** / **(Full Time**_: June 2016 –August 2018_**)**
"Integrated Enterprise Video Streaming Platform with household name partners on a Micro-Service ecosystem and clustered video processing"

- Integrated a distributed micro-service video/metadata platform with client Enterprise systems, including video distribution systems and content management systems.

- Wrote integration scripts to translate API's between systems.

- Wrote REST Agent scripts in Groovy and Python.

- Configured a Software Platform As A Service using tribal knowledge and documentation through a REST/JSON interface.

- Wrote AWS Lambda agents in Python to update data systems and configure the service.

Disney / Python Engineer / **_(Contract: June 2014)_**
"Navigated a massive world scale system to develop authentication of monitoring agents"

- Utilized meta-programming techniques in Python on a REST/JSON API built on Flask.

- Built a security module for client authentication of REST services.

- Worked directly under a Senior DevOps to troubleshoot and resolve Linux problems.

Cobalt/ADP / **_Software Engineer_** / **(Contract with extension offered: _Sept 2013 –Dec 2013_)**
"First enterprise job, optimizing a high-performance database with ingest written in Perl"

- Development and maintenance of an enterprise database.

- Extensive Perl and Shell scripting to transition Java REST services in a legacy UNIX environment

- Created new productivity tools using Shell scripts.

- Wrote scripts that parsed data out of data streams.

- Debugged and repaired key infrastructure and critical tools.

Open Eye, Inc. / *Software Engineer / (Full Time: June 2012 – Jan 2013)*
"Full stack development in Java and JSF with an embedded video streaming and recording backend"

- Developed web-based streaming video playback user interfaces in an Agile environment.
- Developed the internals of video streaming using Java, Spring and Flash.
- Worked on the web application interface using PrimeFaces, JavaScript, REST, JSON, AJAX, HTML, and CSS.
- Wrote scripts to automate installation of testing programs.

ToolBuilders & Critical Systems, Inc. / *Senior Software Engineer / (June 1999 – July 2008)*
"Designed and developed security software for national intelligence and military services"

- Designed and developed security software in C++ that automated deep analysis and repair of security holes in software written in C.
- Delivered presentations to investors to fund product development.
- Secured more than two million dollars in capital for the company.
- Delivered technical presentations to the NSA, Army 25th Infantry INSCOM, and SAIC.
- Worked closely with a Belgium company to integrate offshore technologies.
- Built a portable Java app that allowed remote access to files with no traces and duress codes.