

Michael Graf

LEAD ENGINEER · SECURITY BUFF

Austin, TX 78745

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"An idiot admires complexity, a genius admires simplicity."

Summary

Current Lead Engineer at Audi – Silvercar Division. 7+ years experience specializing in the backend development, infrastructure automation, and computer hacking/security. Perfectionist who loves Vim, FreeBSD and macOS and enjoys Safari (yeah, I said it!). Interested in devising a better problem-solving method for challenging tasks, and learning new technologies and tools if the need arises. Looking for a career that matters. Woodworking novice. Moonlighting at a Machine Shop.

Work Experience

Audi

Austin, TX

LEAD ENGINEER (PROMOTION)

Feb. 2021 - Present

- Lead a team of 9 engineers to build a federated platform between Volkswagen, Dealerware, and Silvercar by Audi.
- Built fully automated CI/CD pipelines on CircleCI for containerized applications using Docker, AWS ECR and ECS.
- Designed an overall service architecture and pipelines of the Machine Learning based Fashion Tagging API SaaS product with the micro-services architecture.
- Designed and implemented multi-tenancy for Silvercar personnel, using roles, single schema, and live / schemaless deployments.
- Deployed a centralized logging environment(ELK, Datadog, CloudWatch, S3) which gather log data from docker containers and AWS resources.
- Deployed a centralized monitoring environment(Grafana, InfluxDB, CollectD) which gather system metrics as well as docker run-time metrics.

Audi

Austin, TX

SOFTWARE ENGINEER III (PROMOTION)

Jan. 2021 - Present

- Implemented RESTful API for automated vehicle Toll Collections.
- Built and deployed overall service infrastructure utilizing Docker container, CircleCI, and several AWS stack(Including EC2, ECS, Route 53, S3, CloudFront, RDS, ElastiCache, IAM), focusing on high-availability, fault tolerance, and auto-scaling for Loyalty Points.
- Developed an easy-to-maintain integration between Volkswagen and SCbA which allows customers to claim 'Always Audi' free rental days leverages AWS Lambda, Kinesis, and Postgres
- Decomposed the SCbA monolithic API into services, including the introduction of service monitoring, programmatic adapter adaptation, and depreciation of services.

Audi

Austin, TX

SOFTWARE ENGINEER II (PROMOTION)

Jan. 2020 - Jan. 2021

- Introduced API Versioning standardization (headers > path) and proper namespaces.
- Built a solution to collect tolls for vehicles in the Colorado area using Heroku free instances, pseudo random ETL, and very goofy phone calls. (Awarded employee of the quarter, ask me about this.)
- Developed an easy-to-use Payment module which connects to major PG(Payment Gateway) for multiple merchants.
- iOS Development (Swift) – assisted with the migration to versioned API endpoints.

Audi

Austin, TX

SOFTWARE ENGINEER

May. 2019 - Dec. 2019

- Built and deployed Braintree Merchant integration using Paypal's ruby SDK, Rails 4.2
- Extensively documented the existing API using OpenAPI spec.
- Built and deployed a pure ruby (proactive) Notification Engine to alert Dealership personnel of: vehicle maintenance, registration and insurance expiration.

Malauzi Software

Austin, TX

SOFTWARE + INFRASTRUCTURE ENGINEER

Aug. 2015 - Apr. 2018

- Built over a dozen interfaces to interact with banking cores using Ruby, Postgres, and Redis. This software infrastructure is used by >1,000,000 customers for more than 1,400 financial institutions across the United States.
- Implemented a distributed web stress test tool with high anonymity.
- Increased interface test coverage by about 15% in 4 months.

Emeritus Senior Living, BKD (NYSE)

Seattle, WA

HELP DESK SPECIALIST + NETWORK ADMIN WANNABE

June 2012 - Dec. 2014

- 64,221 Help Desk Tickets Resolved.
- Introduced Automated data sanitation for Cisco ASA 5505's.
- Migrated nearly 1,000 PC's from Windows XP to Windows 7.
- Introduced canned responses with 'personal touches' ; expedited email responses.

Emeritus Senior Living, BKD (NYSE)

CORPORATE DEVELOPMENT INTERN

Seattle, WA

May 2012 - Aug. 2012

- Contacted Property Assessors in 34 States to determine zoning restrictions for Assisted Living Properties
- Organized the inbox for an attorney.
- Coffee Runs

Honors & Awards

DOMESTIC

- | | | |
|------|--|---------------|
| 2018 | Speaker , DEFCON 26 – Crypto Means Cryptography | Las Vegas, NV |
| 2017 | Employee of the Quarter , Silvercar by Audi | Austin, TX |
| 2017 | Speaker , DEFCON 25 – Let's See How You Leak | Las Vegas, NV |
| 2016 | Speaker , DEFCON 24 – ISO 8583, The Good Parts | Las Vegas, NV |

Presentation

A.C.I.D. Can Be Fun Too.

Austin, TX

PRESENTER FOR AN OVERVIEW OF A.C.I.D. FOR DEVELOPERS – LIGHTNING TALK

Nov. 2019

- Introduced the history of database systems, cardinality, durability, and distributed systems.

Your Bank Knows Too Much About You.

Austin, TX

PRESENTER FOR AN OVERVIEW OF HOW FI'S (FINANCIAL INSTITUTIONS) CATEGORIZE AND BUILD A PROFILE ON YOU BASED UPON YOUR SPENDING HABITS – LIGHTNING TALK

Jul. 2018

- Introduced, and explained how spending can build a financial profile on consumers, how to obfuscate your spending patterns, into to programmatic usage of 'https://privacy.com'

Writing

HACKADAY

www, Online

CONTRIBUTOR AND HONORABLE MENTION

Jan. 2016

- A short post about building an RFID door lock using a Raspberry PI and a cheap 13.56MHz reader

Program Committees

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|------|---|---------|
| 2016 | Problem Writer , 2016 CODEGATE Hacking Competition World Final | S.Korea |
| 2013 | Organizer & Co-director , 1st POSTECH Hackathon | S.Korea |

Education

FSW(Florida Southwestern State College)

www, Online

B.S. IN COMPUTER SCIENCE AND BUSINESS ADMINISTRATION

Mar. 2014 - Aug. 2016

- Activities and Societies: Debate Team, Photography Club, Linux Meetup Group, Student Research Body – 3.4 GPA

Extracurricular Activity

TraxisMFG

Austin, TX

HARDWARE + SOFTWARE ENGINEERING + RS232 ~~ENTHUSIAST~~ TOLERATER

Feb. 2020 - PRESENT

- Using opensource Hardware, I built and delivered a complete solution which allows universal RS232 communication using TCP/IP.
- Deployed to 10 CNC Machines, Multi-Axis Machines, and Lathes, my solution saves these machines from being scraped – bridging the gap between Analog and Digital Technologies at about \$50 per machine.

8i.com

Chicago, IL

CONSULTANT

Jan. 2021 - Feb. 2022

- Assisted with the development of a dashboard for Live / Recorded hologram management
- Introduced Billing Metrics with AWS Lambda Edge, Dynamo and a RESTful API.
- Conducted periodic security checks on overall IT system as a member of POSTECH CERT.
- Conducted penetration testing commissioned by national agency and corporation.