

ROBERT HAFNER

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PROFILE

Robert Hafner started his professional career in 2005 and has spent years building secure, highly available, and resilient distributed platforms. He has worked in a variety of industries, including security, artificial intelligence, and healthcare. In his spare time Robert has started and contributed to numerous open source projects, with his most popular projects having over 20 million installs.

RESOURCES

LinkedIn	www.linkedin.com/in/roberthafner	Portfolio	projects.tedivm.com
Github	github.com/tedivm	Blog	blog.tedivm.com

SKILLS

Languages	Python, JavaScript/Node, NativeScript, PHP, Bash - Familiar with Java, Perl, C, Scheme
Systems	Linux (Ubuntu/Debian), OSX, Puppet/PuppetDB, HPC (slurm, htcondor), nvidia
AWS	EC2, S3, Kinesis, Sagemaker, IAM, VPC, Route53, EFS, RDS, boto3, Redshift, DynamoDB Lambda, SQS, Comprehend, SFTP, API Gateway, ELB/ALB/NLB, Cloudwatch, Cloudtrail Kinesis, GuardDuty + Detective, Systems Manager, AWS SSO, SNS, LustreFSX, Chatbot
Orchestration	Terraform, ECS (EC2 and Fargate), Docker, Nomad, VMWare ESXi, some Kubernetes/EKS
Data	Cloud Architecture, Hadoop, Elasticsearch, MySQL, PostgreSQL, MongoDB, Redis, ActiveMQ
Tools	Jira, Zendesk, git/Github, CircleCI, Jenkins, Nagios/Icinga, HTML/CSS
Management	Technical Recruiting, Vender Relations, Excellent Communication Skills, Cat Herding
Development	Agile Processes (scrum, kanban), API Design, Continuous Integration, Scalability
Security	HIPAA, SOC 2 Type 2, Network Monitoring, Vulnerability Assessment, Risk Assessment
Networking	Firewalls, IPSec and SSL VPNs, Subnetting, NAT, DNS, DHCP, Infiniband/Mellanox

EXPERIENCE

PRINCIPAL ENGINEER

Aptible; Remote

March 2022 - November 2022

- Architected and lead development on the next generation Aptible Platform. This platform is designed to allow Aptible customers to securely and quickly launch AWS resources without having to worry about the nitty gritty of the underlying resources.
- Designed and built a microservice that manages AWS Organizations and Accounts to enable rapid account creation, provisioning, and registration with our new Platform. This enabled customer environments to be created and isolated on the account level, while also allowing those accounts to be detached from our organization for customers that needed it.
- Designed and built a Terraform abstraction layer that allowed Aptible to expose AWS (and other cloud providers down the line) resources through their SaaS for customer use. This enabled rapid prototyping and creation of "Aptible" resources built on AWS VPC, RDS, ECS (with features such as autoscaling), ElastiCache, and SecretsManager.
- Designed a "Connection" system between resources so that all customer created resources were isolated by default but could easily (and explicitly) be connected to resources they need to work with.
- Built a variety of now open source projects and libraries, such as a python wrapper for Terraform that enables full programmatic creation and review of Terraform plans and applies.
- Restarted development on the Aptible Managed Terraform Provider by holding a mini hackathon to fix a major authentication problem. Fixing that bug opened the floodgates as customer adoption of the provider grew.

PRINCIPAL ENGINEER

Explosion AI; Remote

July 2021 - March - 2022

- Joined the Prodigy Teams group to resuscitate a project from three years of stalled development by focusing on improvements to the code base that allowed for easier development. This project consists of an on premise broker that connects to a SaaS platform.
- Instituted the companies first knowledge base and created a process for developing proposals with an asynchronous process.
- Built out the new AWS Environment from scratch, introducing AWS SSO, multiple accounts through AWS Organizations, and an "Infrastructure as Code" first approach.
- Built dozens of reusable terraform modules that can be composed into larger projects. This includes VPC, Lambda, VPN, ECS, Secrets Manager, and EC2 modules with extremely versatile option sets.
- Created the first staging environment for the project's "Software as a Service" component as well as a deployment process for the on premise components.
- Rebuilt the broker infrastructure and registration process from scratch, enabling customer controlled portions of the application to connect to our SaaS offering.

PRINCIPAL ENGINEER

Kenna Security (acquired); Chicago, IL

April 2021 - June 2021

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- Worked with the Exports and Ops teams to reduce the error rate of data exports, moving from multiple high impact failures a week to zero failures.
 - Reduced the time taken for large customer exports by half while also utilizing worker machines that were cheaper than the original deploy, saving money on two fronts while also improving customer experience.
 - Defined the standards and workflow for the company's Terraform adoption efforts.
- At this point Kenna Security was acquired by Cisco, and I decided not to continue on with Cisco.

PRINCIPAL ENGINEER

Rad AI; Berkeley, CA

March 2020 - April 2021

- Architected the Product, Research, and QA Platforms and led their development.
- Acted as Security and Privacy Officer, building out our entire compliance program and guiding the company through SOC2 Type 2 and HIPAA+ audits as well as Network and Application Penetration Tests.
- Created reusable Terraform modules that allowed the company to rapidly prototype and expand its platforms, including modules for the quick release of micro services on top of ECS. Releasing new services from dev to staging to prod can be done in a single afternoon, complete with monitoring, security, autoscaling and more.
- Built a stable CI/CD pipeline utilizing Git Flow, Terraform Cloud, and CircleCI for our platforms that easily allows the entire team to safely deploy on a fast paced basis, complete with automated rollbacks for when deployments fail.
- Architected an extremely resilient and highly available product platform, capable of being launched in a new region with one command in less than four hours (despite having more than 760 separate resources).
- Expanded the model training cluster to include additional on site DGX instances with an InfiniBand interconnect.
- Created our entire inference platform, from the [base images](#) and containers up to the Terraform modules themselves. This included a “mock models” system for testing without GPUs.

VICE PRESIDENT OF ENGINEERING

Rad AI; Berkeley, CA

April 2018 - March 2020

- Built out engineering team as employee one, hiring for Fullstack, ML, Data Science, and Windows Devs.
- Created the first research platform, enabling HIPAA compliant machine learning research for the company. This includes a combination of HPC (slurm) for CPU based processing, a hybrid ML training environment utilizing DGX and AWS Cloud GPUs.
- Architected and built much of the SaaS platform behind our first product, including the initial API and analytics layers (built with python, Docker, and AWS).
- Created multiple fullstack internal tools for the research team, including a model storage system built on top of S3, a custom NLP experiment validation tool that allowed radiologists to evaluate models, and a browser based annotation system.
- Worked directly with the sales team to reassure customers of our security and privacy practices, helping to drive forward sales.

VICE PRESIDENT OF ENGINEERING

Vicarious FPC; Union City, CA

November 2014 - March 2018

- Built relationships with vendors access beta programs and product roadmaps.
- Rebuilt all of the initial infrastructure using Configuration Management (Puppet) and Infrastructure as Code (terraform), moving the company towards a modern approach to managing systems.
- Architected and built HPC clusters in a hybrid-cloud environment designed for "infinite" scaling while utilizing the hardware already owned by the company as a baseline for cost savings.
- Created a headless rendering farm used by the research team to cheaply generate synthetic data on the fly.
- Audited and improved security of the company infrastructure, including managing third party audits.
- Empowered researchers and developers by building tools they could use to directly customize servers and clusters.
- Hired a world class infrastructure team, and assisted with hiring throughout the company.
- Worked to build Distributed GPU Training for the company machine learning training.

STARTUP ADVISOR AND NOMADIC DEVELOPER

AKA Vacation Time; San Francisco, CA - Paris, France

February 2014 - November 2014

- Advised multiple startups and a Kickstarter project on business models, operations, contracts, and funding.
- Found a COO for a local startup.
- Developed open source projects and advised projects.
- Travelled, programmed, learned, and grew as a person.
- Rebuilt personal “virtual” datacenter using Puppet to define all configuration.

VICE PRESIDENT OF IT

Malwarebytes Corporation; San Jose, CA

September 2010 - February 2014

- Built and Managed four departments- Server Side Development, Development Operations, Corporate IT and Malware Intelligence- with 25+ employees and contractors.
- First non-founder member of the executive team; supplied advice and built strategy with the leads of all departments.

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- Acted as the primary architect for the for the analytics, trials, updates and standard business platforms in the face of an exponentially growing user base and the anger of a large number of cyber criminals.
- Personally built the company's first analytics platform, processing millions of data points a day.
- Proposed and built a "pirate tracker" that turned pirated users into paid customers.
- Helped launch and support the Malwarebytes Unpacked blog; including writing content.
- Was the main point of contact with Law Enforcement for information sharing.
- Maintained a culture and infrastructure that was never once hacked or exploited despite constant threat.

DIRECTOR OF IT

Malwarebytes Corporation; San Jose, CA

April 2010 - September 2010

- Maintained ownership over all server side development and operations as the first employee of this team.
- Began the process of recruiting and building out technical teams, while developing policies and practices that enabled the rapid growth of the company while maintaining technical standards.
- Architected and built a privacy first analytics platform that drove both sales and research.
- Managed relationships with CDN, Datacenter, Cloud and other vendors.

CONSULTANT

Malwarebytes Corporation; San Jose, CA

October 2008 - April 2010

- Built initial company infrastructure in 24 hours after a slash-dot affect took down their community run site.
- Managed vendor negotiation and saved the company hundreds of thousands of dollars in services.
- Built a resilient and high performing product update platform with global download points, delivering hundreds of millions of daily updates.
- Defended against DDoS attacks and other more sophisticated exploitation attempts.

DEV/OPS CONSULTANT AND COFOUNDER

SolunaNet; Chicopee, MA

January 2008 - April 2010

- Performed application security audits and instructed developers on secure development practices.
- Performed post incident analysis, repair and remediation.
- Built fault tolerant highly scalable applications, primarily on the LAMP platform.

CONSULTANT, DEVELOPER AND SERVER ADMINISTRATOR

Positronic Design; Holyoke, MA

June 2006 - February 2009

- Long term consulting contract that started as a system administration and web development and grew into a project management role.
- Rebuilt shared hosting environment and created the dedicated server offerings.
- Lead development projects with teams consisting of other subcontractor developers.
- Approved or directly wrote the specifications for all new development projects.

DEVELOPER AND SERVER ADMINISTRATOR, COFOUNDER

Soluna Enterprises; Chicopee, MA

December 2005 - January 2008

- Technical partner in two person shared and dedicated web hosting company with over six hundred sites.
- Managed dozens of web development projects ranging from small bug fixes to large scale multiple developer projects.
- Specialized projects included mass migration, custom system architecture, and server hardening- often in emergency circumstances.

EDUCATION

WORCESTER POLYTECHNIC INSTITUTE

Worcester, MA — 2004-2006

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

Springfield, MA — 2006-2007

REFERENCES

AVAILABLE ON REQUEST.