

HECTOR CASTRO

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https://hector.dev

SUMMARY

Engineering leader with expertise in software development, cloud infrastructure, reliability engineering, and technical team management. Passionate about enhancing software quality and accelerating delivery to maximize team impact and business value. Seeking a remote role as a Tech Lead or Engineering Manager, focusing on empowering small to medium-sized teams.

SPECIALTIES

- I write code day-to-day in **Python**, but am also familiar with **Bash**, **Go**, **Ruby**, and **TypeScript**.
- I am deeply familiar with how the **Django** web framework works, but also have a solid understanding of **Express**, **Rails**, and anything that runs in **AWS Lambda**.
- I am proficient with infrastructure tooling, such as **Ansible**, **AWS CloudFormation**, **AWS SAM**, **Concourse CI**, **Docker**, **GitHub Actions**, **Packer**, **Terraform**, and **Vagrant**.
- I have managed multiple production systems in the **Amazon Web Services (AWS)** ecosystem and have a strong understanding of **API Gateway**, **Batch**, **ECS**, **ElastiCache**, **IAM**, **Kinesis**, **Lambda**, **RDS/Aurora**, **S3**, and **VPC**.
- I have maintained and tuned a wide variety of data stores. I am deeply familiar with **PostgreSQL**, but also understand how **Memcached**, **MySQL**, **Redis**, and **Riak** work.

WORK EXPERIENCE

NBCUniversal, Remote
Principal Architect

November 2021 – Current

- **Improved application observability and performance** by integrating Datadog for unified log aggregation, metrics monitoring, and distributed tracing, enabling rapid identification and resolution of critical performance bottlenecks and significantly reducing mean time to recovery.
- **Established a structured approach to managing technical debt**, creating clear prioritization processes that empowered engineers to proactively advocate for and implement improvements, resulting in greater application stability, maintainability, and long-term productivity.
- **Implemented a standardized, transparent framework for architectural decision-making**, streamlining collaboration across teams and ensuring clear documentation of key engineering choices, which improved alignment, reduced ambiguity, and accelerated project execution.
- **Built strong, collaborative relationships with cross-functional teams**, including Cybersecurity, Data Analytics, and upstream/downstream stakeholders, enabling efficient negotiation and management of dependencies, which accelerated delivery timelines and minimized integration challenges for complex feature sets.

Opentrons Labworks, Inc., Remote
Senior Site Reliability Engineer

April 2021 – October 2021

- **Led the scaling of cloud-based lab operations software** from a single instance to a nationally distributed, multi-instance architecture, directly enabling business growth and improved operational performance across multiple geographic regions.
- **Created automated tooling for consistent database schema migrations**, significantly reducing manual errors, improving deployment reliability, and decreasing the risk of downtime across all lab software instances.

- **Implemented AWS Lambda-based workflows to automate centralized data aggregation**, providing real-time, accurate data into a unified data lake, empowering analytics teams to rapidly derive actionable business insights.

Azavea, Inc., Philadelphia, PA
Vice President of Engineering

January 2017 – January 2021

- **Established an organization-wide framework for architecturally significant decision-making**, improving transparency, alignment, and collaboration across engineering teams.
- **Transformed the engineering hiring process** by introducing a structured apprenticeship program, standardized technical assessments, and improved interview practices, significantly enhancing hiring quality and consistency.
- **Led recruiting efforts for software engineers across multiple teams**, conducted performance evaluations, and mentored engineers, strengthening team capabilities and refining my perspective on effective engineering leadership.
- **Launched cross-functional working groups addressing critical organizational initiatives**, including business development and diversity, equity, and inclusion (DEI), effectively reducing silos and fostering an inclusive, collaborative culture.
- **Implemented a clear and structured engineering career ladder**, providing engineers with transparent growth pathways and significantly improving talent retention and organizational clarity.

Azavea, Inc., Philadelphia, PA
Senior DevOps Engineer

July 2014 – January 2017

- **Founded the company's first dedicated web application infrastructure team**, enabling scalable, resilient engineering operations and supporting rapid organizational growth.
- **Built reproducible software delivery pipelines** leveraging immutable deployment artifacts, infrastructure as code (IaC), and standardized development environments, significantly increasing deployment reliability and reducing lead time.
- **Developed and maintained widely-used open-source Terraform and Ansible modules**, enhancing infrastructure reuse, improving engineering efficiency, and supporting talent attraction through community engagement.
- **Established a structured, blameless incident response process**, promoting transparency and continuous improvement by systematically capturing lessons learned and reducing recurrence of critical production issues.

Basho Technologies, Remote
Developer Advocate

January 2013 – July 2014

- **Led technical pre-sales engagements with organizations nationwide**, improving sales efficiency, shortening sales cycles, and driving higher customer adoption.
- **Maintained and enhanced official Chef cookbooks for Riak and Riak CS**, providing standardized, reliable, and efficient deployment methods that significantly improved user experience and streamlined customer onboarding.
- **Developed tooling and integrations using Docker, Datomic, Omnibus, and Vagrant**, simplifying the integration of Riak products into existing technology stacks, accelerating customer adoption, and improving community engagement.

Wharton Research Data Services, Philadelphia, PA
Software Engineer

June 2010 – January 2013

- **Automated end-to-end data preparation and publishing processes for core datasets**, significantly reducing manual effort and freeing resources to focus on developing more advanced, high-value data products.

- **Transformed a prototype SEC filings full-text search tool into a scalable, cloud-native service** featuring a distributed ingestion pipeline and robust search indexing, successfully delivering the company's first interactive data analytics product and driving new business opportunities.

COMMUNITY INVOLVEMENT

Tech Elevator

March 2021 – Present

Volunteer

- **Mentored boot camp students through mock interviews**, providing personalized feedback on resumes, interview techniques, and career strategies, enhancing their readiness for software engineering roles.

Philadelphia Software Leadership Book Club

November 2018 – November 2020

Co-organizer

- **Co-founded and organized a Philadelphia-based software leadership book club**, recruiting notable speakers, facilitating panels, and cultivating a vibrant professional community focused on modern leadership practices.

Coded by Kids

October 2015 – June 2016

Volunteer

- **Led web development workshops for students aged 8-18**, teaching foundational HTML, CSS, and JavaScript skills, and significantly improved volunteer and student onboarding through comprehensive documentation and streamlined virtual communication channels.

Philly DevOps

July 2012 – December 2015

Co-organizer

- **Co-founded Philadelphia's first DevOps-focused user group**, growing a thriving community dedicated to bridging development and operations, facilitating knowledge exchange, and fostering professional growth among local tech professionals.

EDUCATION

Temple University, B.S., Computer Science

May 2007