

# Henrique Rodrigues

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Engineering lead with 10+ years of experience managing teams and building web services loved by millions of MAU. Experience guiding teams on all phases of a product lifecycle: pitch, technical designs, roadmap, OKRs, execution and production operations. Proven cross-functional work across 20+ globally distributed teams, including SRE, QA, finance, infrastructure, data analytics, legal, marketing, design & UX/HI; Data-driven and passionate about measurable results.

## Core competencies & Skills

- Mentored SW engineer careers at all levels, with relationships built on effective communication, trust and empathy
- Ownership of recruiting, hiring, retaining, promoting and managing performance of tech leads and SW engineers
- Experience with academic research & industry-driven R&D. Publications are omitted here, but available online
- Operated services on bare metal, EC2, EKS and Kubernetes using IaC and many CI/CD tools like Spinnaker, Kayenta
- Built & used many AWS cloud services; Developed software for AWS's control plane APIs and for AWS's data plane
- Java, Python, C/C++, JavaScript, PHP, Ruby, Swift; Built REST, gRPC, Thrift, GraphQL APIs w/ CBOR, JSON, Protobuf
- Oracle, MySQL, PostgreSQL, Cassandra, DynamoDB, Kafka, Redis, Memcached, Elasticsearch, Hadoop, Spark

## Experience

**APPLE** – SENIOR SOFTWARE ENGINEERING MANAGER

**2022-PRESENT**

- iCloud Drive, News, Notes, iWork – managing the team building the storage backend for these products, supporting 10+ client/frontend teams across different platforms (Windows, iOS, macOS, iPadOS, Web/iCloud.com, VisionOS)
- Led the redesign of several APIs for iCloud, reducing capacity needs, service-to-service integration and developer onboarding times from days to hours, while cutting 99th latencies up to 95%, from seconds to 100s of milliseconds
- Guided teams on design & delivery of backend changes and APIs for flagship features presented in Apple keynotes
- Driving the re-architecture of monolith services into micro-services for better availability, dev agility and fast CI/CD

**APPLE** – SOFTWARE ENGINEERING MANAGER

**2019-2021**

- Drove the sunset and migration of Ms+ of users from a legacy file syncing service to iCloud Drive with 0 user impact
- Coached transformation of Devs into DevOps, leading to improved availability, observability and MTTR drop of 80%
- Championed quality across products; pushing key SLIs from below 90% to 99.99%+ success rates in <2 years

**APPLE** – SENIOR SOFTWARE ENGINEER; TECHNICAL LEAD

**2016-2019**

- Built a novel news feed algorithm & GraphQL-like APIs for Apple News, reducing latencies from seconds to < 300ms
- Developed the end-to-end encrypted folder sharing & related APIs for iCloud Drive, in use by millions of customers
- Delivered a novel quota tracking mechanism for Drive, reducing quota computations from seconds to <100ms
- Designed the foundation of 10+ CLI tools used by many teams, shortening investigation times to just a few minutes

**AMAZON WEB SERVICES (AWS)** – SOFTWARE ENGINEER

**2013-2016**

- Member of EC2, ELB, Kernel/Operating Systems (Seattle+SF Bay) teams, owning features from design to production
- Bootstrapped the control plane and APIs that manage the data plane of *NVMe-backed i3 EC2 instance types*
- Built a software load balancer (LB) for Amazon's core RPC/API client (Coral), reducing the need for hardware LBs
- Released a feature that tracks faulty hardware impacting ELB instances, reducing diagnosis of issues to minutes

**LBNL NATIONAL LABORATORY** – PHD GRADUATE RESEARCH

**2013**

- Researched and prototyped an award-winning SDN-based control plane to manage Energy Sciences Network WAN

**HEWLETT-PACKARD LABS / HP CLOUD** – RESEARCH ASSOCIATE

**2012**

- Built a network virtualization and observability solution for multi-tenanted IaaS data centers at the VMM layer (using Xen, Linux Kernel and Open vSwitch), including namespace virtualization (similar to AWS VCP) and QoS/rate limiting

**RADIG IT SOLUTIONS, BRAZIL** – CO-FOUNDER, FULL STACK TECHNICAL LEAD

**2008-2009**

- Kick started and led a company that delivered automation services and web applications for several customers

## Education

**UCSD**, PhD in Computer Science (ABD). *Research on Software Defined (SDN) control of packet-optical hybrid networks*

**UFMG**, MSc in Computer Science. *Research on network performance isolation & QoS guarantees for IaaS data-centers*

**UFMS**, BSc in Computer Science. *Research on distributed aggregation queries in unstructured P2P networks*