

# Raul de Hevia *Software Engineer*

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## PROFESSIONAL EXPERIENCE

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### Software Engineer

02/2022 – present | San Francisco, CA

*Intuitive Surgical, Iris Team (backend)* 🌐

- Dramatically improved core application's user experience by redesigning all the workflows of a TypeScript backend service that retrieves and processes DICOM files. Retrieval time was reduced by 80% (from minutes to seconds).
- Simplified the management of the DB schemas across various services by creating a containerized HTTP-server application written in TypeScript that serves as a centralized platform for all the migrations and DDL operations.
- Streamlined the creation of m2m SSH connections between VM applications and a central service by building an event-driven pipeline that delivers the keys to the central service using AWS S3, SQS, CloudFormation and Go SDK.
- Reduced peak CPU utilization of a service by 75% by implementing an asynchronous queue with TypeScript.
- Improved the visibility of a core service by architecting and building a customized Observability platform using the Elastic Stack (ElasticSearch, Kibana, Fleet, Elastic Agent), Docker, Go, Bash, AWS EC2 and SNS.
- Automated the configuration and enrollment of the monitoring agents with the Observability solution by creating a middleman HTTP service written in Go.

### Co-Creator, Software Engineer

2021 – 02/2022 | San Francisco, CA

*Monsoon (monsoon-load-testing.github.io)* 🌐

Monsoon is an open-source, serverless framework for running browser-based load tests in the cloud.

- Allowed users to load-test their applications with up to 20,000 Google Chrome instances by constructing an auto-scaling, fully serverless load-generation engine using Node.js, AWS ECS, Fargate, EventBridge and Lambda.
- Ensured Monsoon's processing engine to be highly scalable and the test results to be available in near real-time by building an auto-scaling ETL pipeline using Node.js, AWS Lambda, S3, EventBridge and Timestream.
- Wrote npm library so users can script their tests, using Typescript, Puppeteer and the Performance Web API.
- Made application performance metrics easily accessible by developing Monsoon's visualization dashboard using React, VictoryChart, TailwindCSS and Express.

### Full-stack Developer

2020 – 2021 | San Francisco, CA

- Self-employed. Implemented multiple full-stack projects using Node.js, Express, React, PostgreSQL and MongoDB .

### Structural Engineer

2014 – 2020

*Arup*

San Francisco (CA), UK, Spain

- Worked in a wide array of international projects, regularly interfacing with other teams, clients and public agencies.

## SKILLS & TECHNOLOGIES

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**Languages** (*Typescript, JavaScript, Go, Bash, SQL, HTML, CSS*)

**Cloud & Dev Tools** (*AWS, Docker, Git, GitHub, CircleCI, Jenkins, CloudFormation, Puppeteer, Jest, Postman, Nginx*)

**Misc. Technologies & Skills** (*Node.js, Express, Knex.js, PostgreSQL, MongoDB, Redis, Elastic - ELK Stack, HTTP, WebSocket, SSH, TLS, DICOM, Orthanc, Distributed Systems, ETL pipelines, Infrastructure as Code, React, Redux, Vue, CSS*)

## EDUCATION

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**AWS Solutions Architect - Associate** 🌐

2023

**Software Engineering & Full-stack development**

2020 – 2021

*Launch School* 🌐

**BS and MS in Civil Engineering**

2008 – 2015 | Spain

*Technical University Of Madrid*

*Exchange student in Delft University of Technology, Netherlands (2012)*