Bruno F. Reis

Software Engineer

Contact Info

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Technical skills

Languages: Go, JavaScript, Java, Clojure, Scala, Python, C#, F#, Shell scripting.

AWS: EC2, EBS, AutoScaling, ELB, CloudWatch, SSM, IAM, STS, KMS, CloudHSM, Secrets Manager, ACM, Directory Service, CloudTrail, Config, Inspector, Macie, Organizations, Service Catalog, ECS, ECR, EKS, Fargate, Lambda, Step Functions, SQS, SNS, SWF, SES, VPC, Route53, DirectConnect, CloudFront, API Gateway, CodeCommit, CodeBuild, CodeDeploy, CodePipeline, CodeStar, CloudFormation, SAM, Amplify, OpsWorks, RDS, DynamoDB, Redshift, Storage Gateway, EFS, S3, Glacier, Kinesis, Firehose, EMR, Glue, Quicksight, SageMaker, Athena, DataPipeline, and more.

InfoSec: network threat detection and mitigation (multi-Gbps DDoS, data exfiltration); confidentiality and integrity of data at-rest and in-transit; symmetric and asymmetric encryption; X509 certs and CA; key management.

Data Analytics: Hadoop, Hive, Spark, Presto, Hue, MXNet, TensorFlow, Keras

Other

Speaks: pt-BR, en-US, fr-FR, es-419

Likes: cooking, ballet, theater and improv, rock climbing

Plays: piano, flute, guitar

Enjoys: company of my family, including two lovely cats

Profile

I discovered programming around the age of 7 with QBasic on a 386 computer running DOS 6.2. It enabled a few decades of pure joy: studying new programming languages and paradigms is something I love.

As a quick learner with a lot of accumulated experience, I often have satisfaction of building quality software with a variety of technologies, no matter how new to me they might be.

I'm motivated by challenging problems, especially ones requiring learning new concepts and technologies.

After years studying data structures and algorithms in procedural languages (incl. Pascal and C) and 8086 assembly, I got into Object Oriented Programming (OOP) at 12 y/o, (C++, Java, C#). Later, I learned Functional Programming (FP), using Scheme, OCaml, F#, Scala, Clojure, and began to incorporate FP patterns into most of my coding.

Currently, I work on polyglot projects (mainly Go and JavaScript), including back-end code running in the AWS Cloud, as well as front-end (web, desktop, and mobile) clients and standalone apps.

Work experience

Trader and Software Engineer, self-employed — US, 2019 — present

Go, JavaScript, Java, Python, Clojure, GRPC, OpenGL, MXNet, LSTM, LSTNet, DeepAR, GluonTS, AWS

Created an automated data pipeline to process financial market data. Ingestion code written in Go, running in AWS Fargate. Storage of raw data in S3. Processing of data using Spark. Indexed hot data stored in DynamoDB. Implemented LSTNet in Python on MXNet, and used DeepAR and GluonTS, to analyze time-series data.

Built a GRPC-based system to provide simple APIs to interface with brokerage firm with the provided Java SDK. Re-implemented the brokerage wire protocol in Go.

Developed a Go+OpenGL desktop application to visualize historical and real-time data, and to manage buy and sell orders live in the market.

Sr. Tech AWS Specialist, Amazon Web Services — Brazil and US, 2013 — 2019

Go, JavaScript, Java, Python, C#, MXNet, AWS

Worked with *every* AWS service launched until 2019.

Created multiple 1- to 3-day instructor-led and online classes, including *Advanced Architecting on AWS*, *Security Operations on AWS*, *Big Data on AWS*, *ECS Workshop*, *Time series forecasting on AWS*, *Creating Alexa Skills*.

Developed code for student labs in Java, Python, JavaScript, C#.

Created internal tools for my org, including a *calendar reconciliation tool*, a *travel notification system*, and an *invoice processing system*. These projects were built with Go, JavaScript, Electron, and AWS Lambda Functions.

Worked in customer engagements across industries and experience levels. Projects included training employees, designing and reviewing architectures, application code, deployment strategies. Focus on security, cost reduction, scalability, fault tolerance, and high availability.

Examples of customer engagements: ingestion, processing and low-latency querying of 10s of Petabytes of hot satellite data and imagery into an HA 500-node Elasticsearch cluster; cost savings of 90% (from $4M/y) on Big Data pipeline to analyze credit card applications.

Lead Software Engineer, Ebah — Brazil, 2010 — 2013

Java, Scala, JavaScript, MySQL, AWS *(S3, VPC, EC2, AutoScaling, RDS, DynamoDB, SQS, SNS, SES, CloudWatch)*

Led the 10-people engineering team. Hired and trained new engineers.

Refactored the Content-Sharing Social Network monolith into 30+ microservices and migrated to AWS. Projects I built: a Git-based monorepo and accompanying tools; a CI/CD pipeline for 0-downtime deployment; a Hibernate-based data tier abstracting a sharded MySQL cluster; a classifier for piracy detection; a high-throughput mail-marketing platform; a Lucene-based distributed fulltext search engine; a horizontally-scalable task scheduler.

Full Stack Software Engineer, beezBEEZ — France, 2009

C#, ASP.NET MVC, MSSQL, JavaScript

Built a CRM for managing a real-estate sales process using a Microsoft stack.

Education

M.Sc., Diplôme d'Ingénieur, École Centrale de Lille — France, 2007 — 2012

Highlights: Plagiarism detection tool in PHP, Analysis of bifurcation maps (chaos theory) in Matlab.

B.Eng., Mechatronics Engineer, Universidade de São Paulo (Poli/USP) — Brazil, 2005 — 2011

Highlights: Emotional pt-BR text-to-speech engine in Scala, Microcontroller code for CNC lathe in Rabbit Dynamic C, Finite Element Method analysis of 1D and 2D structures in F#.