David Souther (/).

https://github.com/davidsouther
mailto:davidsouther+resume@gmail.com

Sr Examples Engineer

Brooklyn, New York, US

Roles & Positions

Amazon Web Services

Sr Examples Engineer

2022-09-12 **Current**

Sr Engineer creating example code and applications using the AWS SDK for Rust (https://github.com/awslabs/aws-sdk-rust) (example repo (https://github.com/awsdocs/aws-doc-sdk-examples/tree/main/rust_dev_preview)). Primary duties are writing informative code samples for all aspects of the Rust SDK. Longer-term projects develop cross-service scenarios to emphasize SDK utilities across the SDK language and service boundaries. These examples show customers real-world approaches to developing software that combines multiple AWS SDKs.

Highlights include:

- a REST system (https://github.com/awsdocs/aws-doc-sdk-examples/tree/main/rust_dev_preview/cross_service/rest_ses) using Amazon RDS Data (https://aws.amazon.com/rds/) & Amazon SES (https://aws.amazon.com/ses/)
- a photo asset manager (https://community.aws/posts/cloud-journeys/01-serverless-image-recognition-app) using Amazon S3 (https://aws.amazon.com/s3/) intelligent tiering (https://aws.amazon.com/s3/storage-classes/intelligent-tiering/) storage, Amazon Rekognition (https://aws.amazon.com/rekognition/) image tagging, & Amazon SQS (https://aws.amazon.com/sqs/) notifications
- an ML Ops pipeline () using AWS Step Functions (https://aws.amazon.com/step-functions/) to orchestrate Amazon Textract (https://aws.amazon.com/textract/), Amazon Comprehend (https://aws.amazon.com/comprehend/), and Amazon Polly (https://aws.amazon.com/polly/)
- a multi-language Coupon Newsletter (https://github.com/awsdocs/aws-doc-sdk-examples/tree/main/workflows/sesv2_weekly_mailer) using Amazon Simple Email Service (https://aws.amazon.com/ses/).
- Utilized Ailly & Bedrock to develop bespoke human-navigator LLM workflow (https://github.com/DavidSouther/aws-doc-sdk-examples/tree/workflow/sesv2/mailer/workflows/sesv2_weekly_mailer/content) for Code Examples team, speeding development by 20%.

I am the tech lead for the AWS SDK Code Examples (https://github.com/awsdocs/aws-doc-sdk-examples) Tooling group, who create and maintain Continuous Integration, Continuous Delivery, and Product Excellence tooling for AWS Code Examples. This tooling enforces quality standards on first-part example code for the docs.aws.amazon.com (https://docs.aws.amazon.com) property, and requires coordination across engineering, writing, editing, and product teams spanning AWS technology and marketing.

rust (https://rust-lang.org)	amazon-web-services (https://aws.amazon.com)	golang (https://go.dev)	python (https://www.python.org)	front end	technical writing

Code Fellows

Lead Instructor

2022-03-10 **2023-06-30**

Lead instructor for Code 401: Advanced Software Development in Full Stack JavaScript (https://www.codefellows.org/courses/code-401/advanced-software-development-in-full-stack-JavaScript/). Educational duties include online classroom instruction, career coaching, curriculum development, and student evaluation. Students consistently ranked my courses at 100 net promoter score, both on weekly survey and course final evaluations. Organized & lead an instructor-wide project revamping the school's white-boarding process. This project rewrote the white-boarding guide, formalized a rubric for grading whiteboards & tech interviews, and revamped problem & training materials for a dozen instructors across four languages. Code Fellows was ranked as a 2023 top coding boot camp (https://fortune.com/education/bootcamps/best-cybersecurity-bootcamps/) by Fortune Education.

JavaScriptTypeScript (https://www.typescriptlang.org/)	html & css	react (https://react.dev/)	instructing	interview training	curriculum development

SpaceX Starlink

Sr Software Engineer 2021-07-01 2022-06-06

Responsible Engineer for a global ISP's ground network off-prem cloud tooling, including global data acquisition, Data Center Infrastructure Management (DCIM), automated authentication, and more. Migrated and managed these systems in a variety of VM & Service Mesh settings. RE and Subject Matter Expert for a DDoS detection, alerting, and mitigation system protecting a global ISP's core infrastructure and Xm customers. Responsible Engineer for managing and optimizing cloud spend, migrating ~30% on prem and reducing overall utilization ~10% while user base grew ~50%.

Rust (https://rust-lang.org) c++ kubernetes python (https://www.python.org)

GCP - Compute Front End

Tech Lead & Manager 2020-07-01 2021-07-31

As a tech lead, I set strategic direction for our feature area as well as mentoring and guiding my team in their engineering and career. I Lead a team of 10 (4 direct) migrating cloud management tool from AngularJS to Angular. During the migration, I organized additional feature work to maintain market parity and leadership during the migration.

As a manager, I developed junior and Noogler engineers in Cloud, Angular, and TypeScript. I successfully promoted an L4 Noogler to L5 in three performance review cycles and an L3 Googler to L4 during the second cycle as manager, and guided an L3 who received an NI through a PIP who was then promoted to L4 two cycles after departure. I achieved this through managing and mentoring junior engineers, writing performance reviews and promotion packets, and coordinating task priority and HR concerns.

google-cloud-platform google-compute-engine GraphQLTypeScript angular (https://cloud.google.com/)(https://cloud.google.com/compute) (https://www.typescriptlang.org/)(https://angular.io/)

GCP - Cloud Topology

Tech Lead 2018-11-01 2020-06-30

Cloud Topology allows GCP customers to visualize their large scale deployments in the Cloud ecosystem.

- I created a rich kubernetes visualization, capable of rendering 10k nodes at 60fps and performing hierarchical graph layout in <1s, by writing high-performance graph rendering engine and conducting research with internal and external k8s users.
- I created a graphical data model & visualization to improve situational awareness of k8s cluster communications patterns, measured by early adopters reporting improved cluster deployment actions using Google Kubernetes Engine, achieved through researching and providing actionable details from early adopter teams.
- I Demonstrated and enabled testing kubernetes clusters of 10k nodes by building a large scale kubernetes test bed, making it available and documented for internal teams.

TypeScript KubernetesIstioKomposeSvgMicroservicesServerlessGraph Visualization (https://www.typescriptlang.org/) rendering

Education

Rocky Mountain College (https://www.rocky.edu/academics/course-catalog/computer-science)

B.S. Mathematics 2007-08-01 2011-05-31

Tutored for three years. Brought a group of math majors together for regular study sessions, helping all of us work through not just our homework, but the big ideas on topics from philosophy to religion to science, and how they fit together with the material we studied.

Rocky Mountain College (https://www.rocky.edu/academics/course-catalog/mathematics)

B.S. Computer Science 2006-08-01 2011-05-31

Earned two Bachelors of Science (Computer Science, Mathematics) in five years. Worked on several software development projects with other students in the CS department, including tools to help computational biology research students perform genome analysis on Rocky's local computing cluster.

Projects

Ailly (https://github.com/DavidSouther/ailly)

Load your writing. Guide Ailly to your voice. Write your outline. Prompt Ailly to continue to continue the writing. Edit its output, and get even more like that.

Rhymes with Daily.

Ailly's best feature is rapidly itearting on prompt engineering. By keeping your prompts in snippets on the file system, you can make very fine-grained changes to your prompt and immediately see the difference. You can also use all your normal source control tooling to track changes over time - both your changes, and what the LLM does.
Jiffies CSS (https://jefri.github.io/jiffies-css//)

Jiffies CSS is a "postmodern" CSS full-page reset. It uses the most recent 100% pure CSS standards, including layers, native css nesting, and a variable structure to define user and application specific overrides.
nand2tetris/web-ide (https://github.com/nand2tetris/web-ide)

Online web IDE for the nand2tetris (https://www.nand2tetris.org/) computer architecture & language course.
DavidSouther/software_craftsmanship (https://github.com/DavidSouther/software_craftsmanship)

Software Craftsmanship for the Lay Person is an introduction project based book for a first exposure to programming. The main text is language agnostic, while the three workbooks have project-specific instruction in Python, TypeScript, and Rust.
DavidSouther/Montana-News-Archive (https://github.com/DavidSouther/Montana-News-Archive)

Montana News Archive is a long-term archival and search tool for local broadcasting companies. This project has been used by a number of Montana and regional news networks to include historical archival footage in their broadcasts.

Publications

Cloud Journeys: Building a Serverless Image Recognition Website with Machine Learning (https://community.aws/posts/cloud-journeys/01-serverless-image-recognition-app) *2023-06-23*

The Code Examples team tells the story of how they created a serverless application that detects labels for images and lets the user download those images by label. This is the first entry in a new content category called Cloud Journeys.
Technical Whiteboarding (https://codefellows.github.io/common_curriculum/challenges/code/whiteboarding) *2023-04-01*

A series of posts on how to approach technical whiteboarding. Technical whiteboarding is often encountered in an interview setting, but the techniques to solve an interview question apply equally well to a wide range of design and development scenarios. This several-part series presents a checklist of steps to work through a technical problem, shows a variety of ways to diagram programs, and has an extensive glossary of data structures & algorithms topics. A section on the "Forward/Backward Method" applies mathematical proof techniques to have a systematic approach to DS&A problem solving.
Visualization by Organizing Connections in Collapsible Hierarchical Graphs (https://www.tdcommons.org/dpubs_series/2996/) *2019-06-01*

Abstract Network graphs in certain applications, e.g., cloud-network graphs, have connections in multiple dimensions. At present, it is difficult or inconvenient for a user to visualize such graphs at varying levels of granularity or hierarchy. Per the techniques of this disclosure, a hull is defined as a node with descendants, and a segment is defined as a bundle of edges between descendants below a pair of nodes. By enabling a user to expand or collapse a hull, and by routing edges via segments connecting parent nodes, the described techniques enable a high-level visualization of large graph networks that can be quickly refocused into low-level pictures.
Is stat() an expensive system call? (https://stackoverflow.com/questions/17149668/is-stat-an-expensive-system-call/17149924#17149924) *2013-06-01*
Format Date time in AngularJS (https://stackoverflow.com/questions/12920892/format-date-time-in-angularjs/12921096#12921096) *2012-10-01*