Sara Brockmueller

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SUMMARY

Software engineer with 6+ years professional experience. Currently, most experienced with system design, building platforms/frameworks, and scaling systems (but always excited to learn new things!). Looking to work on hard problems, collaborate with smart and passionate people, and build important products.

EDUCATION

Massachusetts Institute of Technology, 2013　　　　　B. S. Computer Science and Engineering
minor in Music

SKILLS

Languages/Frameworks:
　　Proficient in Java, Python, and gRPC. Significant experience in Ruby on Rails. Some prior experience in Django, Meteor, and MATLAB.

Databases:
　　DynamoDB, PostgreSQL, some experience in MongoDB.

Infrastructure:
　　Proficient with AWS services for compute (EC2, ECS, Batch, Lambda), storage (S3, DynamoDB), integration (SQS, SNS). Some experience with metrics/monitoring (Prometheus/Grafana, AWS CloudWatch), infrastructure as code (Terraform).

Architecture:
　　Distributed and concurrent systems, MapReduce, cloud-based services, microservices (both REST APIs and RPC), database design.

EXPERIENCE

3Scan - Software Engineer　　　　　　　　　　　　　　　　　　　　　　　　　　*Jan 2017 - Oct 2019*

- Worked with team to build RPC-based data storage service and client, and the backing storage system on DynamoDB and S3. Assisted with design and implementation of abstractions for spatial data indexing.

- Managed feature development and operations for the data storage system. Provided developer support, built Java CLI tools, made cost/performance optimizations, and ran deployments.

- Led a data storage/access team, which created tools to facilitate data viewing, export, and deletion. Created a batch tool to run delete operations, ultimately saving >$20K per month in AWS bills.

- Built Python prototype of distributed, event-driven data analysis system for multi-terabyte data sets. Set up AWS infrastructure to run it (SQS, ECS, DynamoDB) and onboarded analysis developers. Enabled analysis algorithms to be run on ~$100x larger data sets.

- Led development of core libraries: runtime assertions, serialization, and image test libraries. Built framework for writing more robust AWS-based services, focusing on retry strategies, concurrency in network calls, and error handling.

- Initiated development of code quality and reliability standards. Worked with team to develop style guides, improve test coverage and reliability, and standardize logging and metric collection.

LevelUp - Software Engineer   *Jul 2013 - Jan 2017*

- Worked on the platform team to develop and maintain full-stack Ruby on Rails apps and RESTful API. These powered hundreds of mobile payments and loyalty apps in the food service industry, processing $20M from 600K users monthly. Improved scalability with async processing, caching, and moving to service-oriented architecture.

- Collaborated with a small team to architect and build a web service to enable order fulfillment through external online ordering provider. This included menu modeling and updating, suggesting orders, and integrating with provider APIs to process orders.

- Created dashboard for a sandbox server, to extend functionality for external developers using our API.

Internships

- **Infosys Labs** *(Jun 2012 - Aug 2012)* - Built web app for manual validation of semantic annotation databases.

- **South Dakota State University Bioinformatics Group** *(Jun 2011 - Dec 2011)* - Designed and implemented full-stack web app to visualize gene expression correlation networks, and collect gene expression data from users.

- **MIT Center for Brain and Computational Learning** *(Sep 2010 - Dec 2011)* - Designed and performed psychophysics and EEG experiments on the role of neural feedback mechanisms in human visual processing. Wrote MATLAB scripts for synthesis of image masks, running experiments, and data analysis.

- **Sanford Research/University of South Dakota** *(Jun 2010 - Aug 2010)* - Researched pancreatic cell proliferation in Type I diabetes, using cryoslicing, fluorescent staining, microscopy, and photo-editing software.

INTERESTS

Hiking, cultivating plants/animals, sci-fi, making music, sewing, learning new skills and creating cool things.