Makoto Sadahiro

San Francisco Bay Area | +1 (628) 243-2729

sadahiro@gmail.com | https://sadahiro.github.io

SKILLS

Expertise:

Backend Engineering, ETL, Data Engineering, Data Visualization/Analysis, VR (Immersive Environment) Systems

Recent Environment:

Python, Shell Scripts, Go, etc

AWS, Docker, Flask, GraphQL, Kafka, Flume, Hadoop, Git, Jenkins, Pipenv, NGINX, SQL/NoSQL, Redis, Terraform, GCP, etc.

Others | Past Environment:

C/C++, Java, Fortran, Pascal, Assembly, BASIC, Haskell, HTML, VRML, Lisp, Tcl/Tk, etc.

CUDA, FFmpeg, CAVElib, OpenGL, STL,VRPN, Kivy, Boost, GD, Qt, DICOM, Motif, etc.

Spoken Languages:

English (fluent), Japanese (native)

EXPERIENCE

Software Engineer in Backend Engineering, **Grabango**　　　　　　　　　　　11/2022 - 06/2023, Berkeley, CA

Grabango is 100+ person start-up company which offers checkout-free technology for grocery/convenience store chains

Environment: Python, Shell Script, SQL, Docker, GCP, etc.

- Developed to improve cashier-free checkout transaction infrastructure to serve API endpoints
- Developed to extend POS/pricing service to handle complex/combined sets of promotions and tax reporting
- Developed test utilities for pricing/tax/promotion calculations against ingested data model and historical/external data for extended unit-testings and accuracy improvement measures by code changes

Software Engineer in Backend Data Platform Engineering, **HouseCanary**　　　01/2020 - 09/2022, San Francisco, CA

HouseCanary is 150+ person start-up company, which serves various housing market data and valuations

Environment: Python, Shell Script, Go, Flask, GraphQL, SQL, AWS, Docker, Terraform, NGINX, ELK stack, etc.

- Developed for multi-threaded micro-service data platform infrastructure to serve API endpoints
- Developed for the query quality monitoring infrastructure with tracing/logging across all data platform services
- Developed/Maintained for scaling/monitoring/alarm infrastructure as code across all data platform services

Software Development Engineer in Backend/Data Engineering**, Perfect Price**　　08/2015 - 08/2019, San Francisco/Oakland, CA

Perfect Price is 10+ person start-up, which serves optimal pricing data for e-commerce

Environment: Python, Java, Shell Script, SQL, AWS, Kafka, Flume, Hadoop/Pig, etc.

- Developed for batch ETL pipeline and related management tools
- Deployed messaging pipeline for data collection
- Developed internal tools , such as continuous integration, alerting, database migration
- Managed AWS resources as AWS administrator, created company system/network security
- Implemented/Documented/Deployed all engineering aspects of SOC 2 certificate requirements

Software Developer in R&D Seismic Data Processing,

Halliburton|Landmark Graphics Corp.   06/2014 - 05/2015, Denver, CO

Landmark Graphics is a branch of Halliburton (60K+ employees), which develops software suites for oil and gas exploration

Environment: Java, C, Fortran, Shell Script, Lisp, etc.

- Developed geophysical data processing software modules for the software suite
- Developed module/extension-management GUI tool, enabling secure and trusted software management

Research Engineer/Scientist Associate in Scientific Visualization and Data Analysis,

The University of Texas at Austin, Texas Advanced Computing Center   07/2003 – 08/2012, Austin, TX

Texas Advanced Computing Center is one of the largest high-performance computing center, which serves academic research nationwide

Environment: C/C++, Shell Script, Unix Tools, Python, FFmepg, CAVElib, OpenGL, STL, VRPN, Kivy, Boost, OOPic, ParaView, Amira, VTK, etc.

- Developed software tools/workflow for processing large-scale scientific/engineering data of various kinds, such as 3-D geometry, multi/high-dimensional volume, finite element, and etc, for visualization and analysis
- Developed software tools for parallel workflow to accelerate existing data processing as much as 100+ times
- Deployed immersive environment (CAVE) system; 360-degree 3-D stereo display system with 10+ projector and head tracking system, which involves with both hardware/software integration and development, enabling one of very few operational immersive systems in the nation to display scientific data
- Developed software/API/hardware for in-house-built systems, such as virtual keyboard and wireless connectivity with auxiliary keys/switches, and haptic feedback for the immersive environment, and multi-touch table screen
- Developed video processing engine for THE OPEN VIDEO PROJECT, which is the first free academic video server, creating various media types and meta-media via functions, such as scene change detection, animated GIF, fast play clip, and etc.
- Developed paint program for in-house multi-touch screen system, demonstrated at IEEE Supercomputing
- Deployed in-house webcasting/recording infrastructure for remote trainings
- Maintained visualization lab functionalities and proctors as the lab manager for internal projects/tasks
- Supported researches as a data visualization/analysis consultant nation-wide via academic e-science computing network (TeraGrid)

Software Developer in MRI Systems, **Hitachi Medical Corporation**   01/2003 - 06/2003, Kashiwa-city, Chiba Japan

Hitachi Medical Corporation is the manufacture of Hitachi's medical scanners

Environment: C/C++, Motif, DICOM, etc.

- Developed for imaging software components of Hitachi MRI medical scanners
- Developed planning/specification for new imaging system
- Developed test for Inter-vendors DICOM connectivity/compatibility

EDUCATION

M.S. Geosciences/Geophysics: The University of Texas at Austin, Jackson School of Geosciences

Thesis: Analysis of GPU-based convolution for acoustic wave propagation modeling with finite differences
(https://repositories.lib.utexas.edu/handle/2152/25746)

B.A, B.S. Computer Sciences: The University of Texas at Austin, Department of Computer Science

B.F.A. Photo/Electronic Imaging: University of Massachusetts Dartmouth, College of Visual and Performing Arts