Ganyu Xu

software engineer

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⊙ xuganyu96

in /in/ganyu-bruce-xu

Skills

- Rust
- Cryptography
- Python 3
- Data engineering
  Apache Airflow
  Relational database (SQL)
  AWS S3, Athena, RDS
- AWS Serverless Stack
  API Gateway, SQS, Lambda
  Elastic Container Service
- Linux server deployment
  Containerization, shell scripting
- Web development
  Flask, Django
  HTM, CSS, JS, Bootstrap 5

Education

University of Waterloo
Sep, 2023 - Present

Master of Applied Science

Electrical and Computer Engineering

U of California, Berkeley
Aug, 2015 - May, 2019

Bachelor of Arts

Mathematics and Statistics

Software engineering experience

Senior data engineer
July, 2019 - Sept, 2023

LeanTaaS Inc.
Santa Clara, CA

- **Automated business analytics and legacy manual workflow** for operioperative management in 100+ healthcare systems throughout the US
- **Improved ETL pipeline scalability** by migrating data ingestion from PostgreSQL to AWS S3 and moving Airflow's workers from EC2 to ECS
- **Accelerated enterprise customer onboarding** by automating manual data quality review, cutting onboarding timeline from 4 months to 1 month
- **Increased developer productivity** by containerizing development environment, building unit testing framework, and integrating CI/CD practices
- **Reduced pipeline downtime** by implementing service availability monitoring and engineer on-call alarms via DataDog
- Recruited and mentored junior developers through project design review, pair programming, and technical workshops

RustCrypto

- Implemented constant-time arithmetic for heap-allocated big integers in cryptographic bigint crate **crypto-bigint**
- Expanded prime generation for heap-allocated big integers in **crypto-primes**
- Automated side-channel vulnerability analysis in RSA implementation

rustls

- Identified incorrect TLS termination at google.com and fixed the example binaries to connect to other properly working TLS server

Apache Airflow

- Fixed improper exception handling in Python multiprocessing that causes the scheduler to become zombie instead of exiting
- Fixed incorrect DagRun list view serialization that causes the webapp to crash when DagRun config is not JSON-serializable
- Implemented user-specified retries for "airflow db check"

Flask-AppBuilder

- Refactored logging infrastructure to use proper lazy logging

PyAthena

- Fixed compatibility issues between PyAthena and SQLAlchemy 1.4

Asymmetric two columns (A2C)

- Custom-built resume templates using Jekyll and Bootstrap 5
- **This resume you are reading** is built using A2C