Judah High – Software Engineer

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Summary

- **Experience**:
  - 6 years of software engineering experience
  - 11 years of software development experience
- **Languages**: Rust, Python, Golang, TypeScript, JavaScript, HTML/CSS, SQL, C++, C, Fortran, Bash
- **Technologies:** Actix, AG Grid, Boto, Bun, Docker, FastAPI, Git, GlueSQL, Go-Kit, Great Expectations, HTMX, js-sys, Kubernetes, Mangum, Moto, Next, Ngnix, Node, npm, Pandas, Polars, PostgreSQL, Prisma, PyTest, React, Redis, Rocket, Serde, SkeletonUI, SPARK, SQLite, Svelte/SvelteKit, Tailwind CSS, Tauri, Threlte, Tokio, Tox, Trunk, Visual Studio , VS Code, wasm-bindgen, web-sys, Yarn, Yew, AWS (ALB, Amplify, API Gateway, Athena, Aurora, Batch, CDK, Cloud Formation, CloudWatch, CodeArtifact, Codebuild, CodePipeline, CodeStar, Cognito, DynamoDB, ECR, ECS, EKS, EventBridge, Fargate, Glue, IAM, Lambda, QuickSight, RDS, Redshift, Route53, S3, SDK, SecretsManager, SQS, Step Functions, VPC)
- **Methodologies/Practices/Standards**: Agile, BDD, Biscuit auth, CI/CD, Clean Code, Cloud-native Software Design, Data Engineering, Design Patterns, DevOps, FP, HPC, JWT, Oauth2, OOP, Parallel Programming, Serverless, Software Architectures (Client-Server, Event-driven, Layered, Microservices, MVC, REST), TDD

Academic Training

- Computational Quantum Chemistry, Ph.D., NCSU

Employment History

- Principle Software Engineer, Agenus, Feb 2022-Aug 2023, Remote
- Staff Engineer, Applied Research Associates, May 2017-Jan 2022, Hybrid – Raleigh, NC
- Research Assistant – simulation software, NCSU, Aug 2012-May 2017, Raleigh, NC

Recent Projects

Cloud-native data pipeline orchestration system — Agenus, Inc.

- **Languages/Technologies**: DataDog, Docker, GitHub, Python (Black, Boto, FastAPI, Mangum, Moto, Pytest, Tox), Rust (Rocket, Serde), AWS (ALB, API Gateway, Athena, CDK, Cloud Formation, Codebuild, CodePipeline, CodeStar, DynamoDB, ECR, EventBridge, Glue, IAM, Lambda, S3, SDK, SecretsManager, SQS, SSM, Step Functions)
- **Delivery time**: 6 months
- **Team size**: 5
- **Description:** System orchestrated clinical trial data pipelines using events on AWS.
- **Impact**: Accelerated the delivery of critical clinical trial data processing pipelines.

Cloud-native CRU~~D~~ web application for tracking clinical trial patient data — Agenus, Inc.

- **Languages/Technologies:** Azure AD, Docker, GitHub, Kubernetes, Python, Rust (Actix, GlueSQL, js-sys, WASM, wasm-bindgen, web-sys), TypesScript (AG Grid, React, Tailwind CSS), AWS (ALB, CDK, Cloud Formation, Codebuild, CodePipeline, CodeStar, Cognito, DynamoDB, ECR, EKS, Fargate, S3, SDK)
- **Delivery time**: 4 months
- **Team size**: 4
- **Description**: Web application provided a tabular data interface to track clinical trial patients from multiple trials. The app provided CRU~~D~~ capabilities and a full audit trail of all user- and system-derived patient data updates throughout the course of clinical trials.
- **Impact**: App-supported clinical trials cut manual tracking/processing efforts of supported trials by several hours per user per day.

Cloud-native, clinical data integration pipelines — Agenus, Inc.

- **Languages/Technologies:** GitHub, Great Expectations, MySQL, PostgreSQL, Python (Pandas, PySpark), Rust (Polars, Serde), AWS (Athena, Aurora, Batch, CDK, Cloud Formation, Codebuild, CodePipeline, ECR, ECS, Fargate, Glue, Lambda, Redshift, S3, SDK, StepFunctions)
- **Delivery time:** average 3.5 weeks/pipeline
- **Team size**: 3
- **Description**: With a total of 11 pipelines delivered, clinical data was ingested, integrated, and exposed as analytics-ready data sets to in-house clinicians, scientists, and statisticians.
- **Impact**: Word-of-mouth surveys conducted by my team revealed deployment of pipelines helped users within the company cut MS Excel time by over 4 hours every day.

Publications

- High, J. S.; Rego L. G. C.; Jakubikova, E. J. *Phys. Chem. A*, **2016**, 120(41), 8075-8084.
- High, J. S.; Virgil, K. A.; Jakubikova, E. J. *Phys. Chem. A*, **2015**, 119(38), 9879-9888.