

JOSHUA TIMMONS

1-941-720-1396 | joshuatimmons1@gmail.com | github.com/jjtimmons

EXPERIENCE

Amazon Web Services | Software Development Engineer II | May 2020 – Present

I create and maintain software that underpin AWS's EBS service.

- Built and improved APIs and services that decrease the boot time of EC2 instances by ~50%.
- Wrote performant and operationally robust programs and APIs that serve extremely high traffic.
- Designed distributed services, shared plans across teams, and mentored more junior developers.
- Ran performance testing and one-off experiments, answering ambiguous technical questions and communicating the results to business leaders and technical peers.

Lattice Automation Inc. | Senior Software Engineer | July 2016 - May 2020

I built software for scientists and successfully led both internal and external projects.

Corteva Agriscience: Vector Design Platform

- Lead programmer. Designed and wrote a DNA assembly platform/API for the largest agtech company in the USA. It is used for over 60% of Corteva's DNA constructs (>10,000 per year).
- Made a decision tree with dozens of adjustable "assembly rules" within a Dockerized C# API.
- Created an SVG-rich front end Angular library to interact with and edit the platform's designs.
- Wrote an extensive test suite with hundreds of unit, integration, and end-to-end tests (MSTest).
- Proposed and implemented a novel dynamic-programming-based "DNA design in reverse" approach that saves a team of PhD biologists ~6 hours of planning per construct.

enEvolv: Protein Engineering Pipeline

- Lead programmer. Wrote a protein engineering pipeline that designs thousands of variants in parallel. Supported 3 bespoke molecular biology assembly protocols.
- Used scikit-learn to model and tune features within protein variant libraries.

Lattice Automation: Molecular Biology Web App

- Designed and wrote a React-based synthetic biology platform with authentication, authorization, a GraphQL API, a MongoDB database, folder navigation, sequence viewers, restriction digest, and DNA assembly algorithms.
- Created a deployment pipeline from Github, CircleCI (build/test), AWS Elastic Beanstalk (server), AWS S3, and CloudFront (client). Reduced update times from 30 minutes to 5.

Harvard Medical School | Research Assistant | July 2014 - August 2018

Published 8 academic papers – 5 of which I primary authored – that have been cited ~150 times. Topics covered medical research, immunology, and biophysics.

EDUCATION

Northeastern University | B.S. Biology, Minor Economics | September 2012 - August 2016

Courses: Statistics and Software, Bioinformatics Programming, Bioinformatics Methods.

SKILLS

Java, Python, C#, JavaScript/TypeScript, Golang, HTML/CSS, React, Angular, GraphQL, Node.js, .NET., Amazon Web Services, CircleCI, Git, Docker, MongoDB, DynamoDB, MySQL.