

Kyung Hoi (Joseph) Min

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EDUCATION

MIT

MS IN EECS

Jun 2022 | Cambridge, MA

CALTECH

BS IN BIOLOGY AND

COMPUTER SCIENCE

Jun 2020 | Pasadena, CA

SKILLS

PROGRAMMING

- Python
- Javascript, Typescript
- Ruby on Rails
- SQL
- C# (.NET Framework)
- C, C++

SOFTWARE

- Git, CI/CD
- Docker
- Django
- Apache Airflow
- AWS (S3, Batch, RDS, Lambda)
- Nextflow
- React.js
- Snowflake
- Kubernetes
- Kafka

OTHER

- Software design and architecture
- Technical communication
- Computational biology (NGS)

PUBLICATIONS

- [1] Spateo: multidimensional spatiotemporal modeling of single-cell spatial transcriptomics. in press, 2024
- [2] Dynast: Inclusive and efficient quantification of metabolically labeled transcripts in single cells. MIT, 2022
- [3] Modular and efficient pre-processing of single-cell RNA-seq. Nature Biotechnology, 2021.

EXPERIENCE

SOFTWARE ENGINEER | GINKGO BIOWORKS

Aug 2022 – Present | Current title: Senior Software Engineer | Boston, MA

Designed and implemented scalable software solutions for biosecurity and synthetic biology applications in fast-paced Agile environments. Led cross-functional initiatives to identify core software gaps and unblock high-impact projects. Technical lead for a customer-specific project team, mentoring junior engineers to achieve deliverables efficiently.

RESEARCH ASSISTANT | MIT

Dec 2020 – Jun 2022 | Cambridge, MA

Studied cancer evolution via synthetic lineage reconstruction using a CRISPR-enabled lineage tracer at the Weissman lab. Developed tools to preprocess metabolic labeling scRNA-seq data [2] and high-resolution spatial transcriptomics [1].

SOFTWARE SOLN. ENGINEER INTERN | GINKGO BIOWORKS

Jun 2020 – Aug 2020 | Boston, MA

Migrated in-house mass spectrometry data pipeline to AWS and Apache Airflow. Designed and implemented the full development cycle for scalable and reliable pipelines, contributing to a long-term infrastructure upgrade.

SOFTWARE ENGINEERING INTERN | GINKGO BIOWORKS

Jun 2019 – Sept 2019 | Boston, MA

Enhanced data analysis pipelines and backend services to improve stability and performance. Collaborated with Agile teams to deliver tested, scalable software solutions.

PROJECTS

ON-DEMAND ANALYSIS PIPELINE | SWE, GINKGO BIOWORKS

Jan 2023 - Dec 2023 | Boston, MA

- Refactored an in-house automated analysis pipeline for improved scalability and reliability using Apache Airflow.
- Tech lead for the implementation of a new analysis registry and mentored an intern through its successful delivery.

BIOSECURITY NGS PIPELINE | SWE, GINKGO BIOWORKS

Sept 2022 - Jan 2023 | Boston, MA

- Led productionization of an in-house biosecurity NGS pipeline, significantly enhancing throughput and runtime.
- Orchestration using Apache Airflow and job execution on AWS.

MASS SPECTROMETRY PIPELINE | SOFTWARE SOLN. ENGINEER INTERN, GINKGO BIOWORKS

Jun 2020 – Aug 2020 | Boston, MA

- Migrated the in-house mass spectrometry pipeline to Linux and AWS, leveraging Apache Airflow for workflow orchestration.
- Retired an internal fork of ProteoWizard by contributing back to upstream.

NGS PIPELINE | SOFTWARE ENGINEER INTERN, GINKGO BIOWORKS

Jun 2019 – Sept 2019 | Boston, MA

- Migrated in-house NGS pipeline to AWS and Apache Airflow.
- Implemented pipeline metrics collection with Elasticsearch and Grafana.