Kyung Hoi (Joseph) Min

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EDUCATION

CALTECH
BS in Biology and Computer Science
Present | Pasadena, CA
Expected Graduation: Jun 2020
Cum. GPA: 4.0 / 4.0

COURSEWORK

UNDERGRADUATE
Biology
Regulation of Gene Expression
Cell Biology
Genetics
Bioinformatics *(Planned)*
Biomolecular Computation *(Planned)*

Computer Science
Programming Methods
Decidability and Tractability
Communication Networks
Algorithms
Learning systems

SKILLS

PROGRAMMING
- Python
- Javascript
- HTML/CSS
- C, C++
- Matlab
- R

SOFTWARE
- Docker
- Django
- Apache Airflow
- AWS S3, Batch, DynamoDB
- Elasticsearch, Grafana
- React.js
- CI/CD
- Celery, RabbitMQ
- Numpy, Pandas

DATA ANALYSIS
- RNA-seq *(QC, Kallisto, Sleuth)*
- Bootstrapping *(significance testing)*

MOLECULAR BIOLOGY
- PCR
- Cloning
- Purification

PROJECTS

NGS PIPELINE | Software Engineering Intern, Ginkgo Bioworks
Jun 2019 - Sept 2019 | Boston, MA
- Migrated in-house NGS pipeline to the cloud (AWS S3, Batch, DynamoDB).
- Implemented pipeline metrics collection with Elasticsearch and Grafana.
- Implemented contamination screening via taxonomy analysis with Centrifuge.

ALASKA | Full-Stack Developer, Caltech
Jan 2017 - Aug 2019 | Pasadena, CA
- Developed a framework for automated, complete RNA-seq analysis.
- Parse Server backend. Frontend portal in Javascript, HTML/CSS.
- Presented a poster at the 21st International *C. elegans* Conference.
- Available at http://alaska.caltech.edu/ and source code on Github.

EXPRESSION PLOTTER | Software Developer
Jun 2017 – Sep 2017 | Pasadena, CA
- Continuous and binomial data analysis and plot generator in Python.
- Implemented significance testing with bootstrapping.
- Automatically generates boxplots, heatmaps, scatterplots of data.

RESEARCH

PACHTER LAB | Undergraduate Researcher
Oct 2019 – Present | Pasadena, CA
Working with **Sina Booeshaghi** and **Prof Lior Pachter** on a single-cell RNA-seq project with Kallisto.

STERNBERG LAB | Undergraduate Researcher
Jan 2017 – Jun 2019 | Pasadena, CA
Worked with **David Angeles PhD.** and **Prof Paul W. Sternberg** on bioinformatics and molecular biology projects involving the model organism *C. elegans*, most notably Alaska (above).

EXTRACURRICULARS

YEARBOOK | Business Manager, Designer, Photographer
Sept 2016 – Present | Pasadena, CA
Worked on the yearbook, *The Big T*, as business manager, designer and photographer. Established a new advertisement system, shared cloud storage system, job organization and assignment system, and payment reimbursement system. Designed pages and took/edited photos with Adobe software.

HEALTH ADVOCATE | Emergency Medical Responder
Sept 2017 – Present | Pasadena, CA
American Red Cross certified emergency medical responder and basic life support provider. Worked as the dormitory health advocate and provided first aid to students.

AWARDS

2018   Samuel P. and Frances Krown SURF Fellowship
2017   SURF Fellowship