

# Nathaniel Budijono

I am an undergraduate student with a broad skill set including machine learning, computational biology, and computational chemistry. I have a passion for teaching, self-learning, and collaborative research.

Currently pursuing a position that allows me to apply machine learning, mathematics, and software engineering in novel ways to problems in the physical sciences, social sciences, or health.

## Contact

-  [nathanielbd@gmail.com](mailto:nathanielbd@gmail.com)
-  [github.com/nathanielbd](https://github.com/nathanielbd)
-  [linkedin.com/in/nathanielbd](https://linkedin.com/in/nathanielbd)
-  [nathanielbd.github.io](https://nathanielbd.github.io)

## Education

### B.S., Computer Science and Mathematics

#### University of Minnesota

- Honors
- F2018 - Present

#### Selected Coursework

- CSCI 5461: Bioinformatics, Functional Genomics, and Systems Biology (S2020)
- CSCI 5481: Computational Genomics (F2019)
- BIOC 3021: Biochemistry (F2018)
- CSCI 5521: Machine Learning (S2020)
- CSCI 5523: Data Mining (F2019)
- CSCI 5980: Deep Learning (F2020)
- MATH 5251: Error-correcting codes, Finite Fields, and Algebraic Curves (F2020)
- MATH 5248: Cryptology and Number Theory (F2020)
- CHEM 4502: Quantum Mechanics and Spectroscopy (F2020)

## Research

### Undergraduate Researcher

#### [Chad Myers's CSBIO Lab](#)

- Created pipeline for visualizing genetic interaction networks
- Investigating machine learning methods for predicting gene function from genetic interaction networks
- S2019 - Present

## Industry

### Software Engineer Intern

Rally Health

- Created a utility for data pipeline to monitor data throughput, ETL jobs, data validation with Scala, Databricks, Datadog
- Created comprehensive and responsive web dashboard for data pipeline health and performance metrics with Airflow, Flask, SQLAlchemy, d3.js
- Created, tested ETL job to process ledger data from incentives program with Spark
- S2019

## Honors/Awards

---

### Wells Fargo Campus Analytics Challenge

- F2020
- Competed against students from Stanford, Duke, Cal, Georgia Tech, NYU, University of Minnesota for development of novel machine learning methods
- Selected as winner for \$1,000 prize

### Computer Science and Engineering Scholarship

- S2019
- Awarded each year to 2-4 students

### Hacktech 2020

- S2020
- Winner: Best Hack Using Machine Learning (Citadel), Best Social Good Hack, Best Artificial Intelligence Hack
- Created demonstration of a precision medicine tool for analyzing patients' pharmacological profile in 36 hours using rdkit, Flask

## Teaching

---

### SASE Labs Director

- Board member for Society of Asian Scientists and Engineers University of Minnesota chapter
- Taught JavaScript, React, Node.js, git to beginner programming students
- Served as project manager and architect for [a web application](#) allowing navigation through the 'Gopher Way'
- Developing interactive remote workshops for topics such as machine learning and [control systems](#), including animations using [Manim](#)
- S2020 - Present

### App Developers Club Workshops Director

- Developing interactive remote workshops to learn React, Flask, SocketIO by recreating my existing projects as well as adding open source contributions to them
- Developed and deployed [multiplayer trivia game](#) to be played at kickoff event
- S2020 - Present

## Talks

---

- University of Minnesota Bioinformatics and Computational Biology Symposium (F2020)