

# Isaac Wong

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## EDUCATION

### University of Rochester

*Bachelor of Science in Computational Biology*

*Bachelor of Arts in Computer Science*

*Concentration in Artificial Intelligence and Machine Vision*

- GPA 3.52 out of 4.00
- Dean's List 4 of 6 semesters
- Dean's Scholarship, 2015 – 2019

**Rochester, New York**

*Anticipated May 2019*

## RELEVANT COURSES AND LABS

- Organic Chemistry with Lab, Genetics with Lab, Biochemistry, Biostatistics with Lab, Molecular Biology, Biology of Aging, Computational Biology with Lab
- Data Structures & Algorithms, Discrete Mathematics, Computational & Formal Systems, Artificial Intelligence, Computer Vision, Machines and Consciousness

## RESEARCH EXPERIENCE

### Freie Universität – Department of Biochemistry

**Berlin, Germany**

*Research under Dr. Helge Ewers, DAAD RISE Fellowship*

*May 2018 – August 2018*

- Created tools for analysis of single particle tracking super resolution microscopy data. Worked on magnetic control of magnetic nanoparticles inside living cells using super resolution microscopy.

### University of Rochester – Department of Biology

**Rochester, New York**

*Independent Research under Dr. Amanda Larracuente*

*September 2017 – May 2018*

- Worked on a computational model for satellite DNA evolution in *Drosophila melanogaster* with a focus on the 359bp 1.688 family. Created pipeline for and measured copy number variations of satellite DNA across unique loci of an individual and between individuals of the same and different populations. Looked for associations between copy number and expression level of nearby genes.

### University of Rochester – Department of Biology

**Rochester, New York**

*Independent Research under Dr. Amanda Larracuente*

*January 2017 – September 2017*

- Assisted in computational analysis, construction of genome assembly, and genome annotation of multiple firefly species with a focus on repetitive elements.
- Developed the first protocol for Fluorescent *in Situ* Hybridization to firefly chromosomes and imaged the first karyotype showing probe hybridization to canonical telomere sequence.
- Fallon, Timothy R, et al. "Firefly Genomes Illuminate Parallel Origins of Bioluminescence in Beetles." 2017, doi:10.1101/237586.

## POSTER PRESENTATIONS

- Isaac Wong, "A Method for Fluorescence *in Situ* Hybridization to Firefly Chromosomes." Annual Undergraduate Program in Biology & Medicine Poster Session. Rochester, New York, 2017.
- Arif Kodza, Isaac Wong, "Complex Satellite DNA variation within and between populations of *Drosophila melanogaster*," 59<sup>th</sup> Annual Drosophila Research Conference, Philadelphia, PA, 2018.

## CO-CURRICULAR AND LEADERSHIP EXPERIENCE

### Men's Club Volleyball, University of Rochester

**Rochester, New York**

*Libero*

*August 2015 – Present*

- Organized and lead the team's defensive strategies, placed 3<sup>rd</sup> in 2016 Division Championship, 2<sup>nd</sup> in 2017 Division Championship, and 4<sup>th</sup> in 2018 Division Championship.

### Hult Prize, Singapore Regional Finalist

**Rochester, New York**

*Team UR Connected*

*November 2017 – March 2018*

- Developing a social enterprise to improve the lives and health outcomes of older adults by creating a unified digital platform which facilitates access to social events, volunteering opportunities, and community resources.

## SKILLS

- Fluorescent *in situ* Hybridization, Fluorescence microscopy and image processing, PCR, gel electrophoresis, DNA extraction, Southern blot, cell culture
- Proficient in Java, C, R. Familiar with Python, Perl