

# KENNETH LOI

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## EDUCATION

### University of California, Berkeley

*Pursuing Bachelor of Arts in Molecular and Cellular Biology*

Berkeley, CA

*Aug. 2020 – Present*

## PROJECTS

### Protein Binding Conformation | UCSF Chimera, AutoDock Vina

January 2019 – March 2020

- International Baccalaureate (IB) Extended Essay: Used molecular docking software to analyze binding energy between amyloid-beta peptides and alpha-2-macroglobulin monomer.
- Explored basic biochemistry and organic chemistry topics through literature and textbooks.
- Taught myself how to use computational chemistry software (i.e. molecular modeling programs) following tutorial documentation.

### Scheme Interpreter | Python, Scheme

November 2020

- Implemented a Scheme interpreter in python
- Implemented a parser to convert Scheme commands into Python
- Implemented an evaluator to execute the parsed data.

## EXPERIENCE

### Free Summer Swim Lessons Program

June 2019 – Aug. 2019

*Rockledge High School*

*Rockledge, FL*

- Helped launch and lead the program
- Developed exercises to teach fundamentals of swimming
- Designed games to engage novel swimmers

### High School Swim Captain

Aug. 2019 – November 2019

*Cocoa Beach Jr./Sr. High School*

*Cocoa Beach, FL*

- Varsity Captain (12th grade) and JV Captain (9th grade)
- Gave extra lessons to new swimmers on our team. Spent time before and after practice to provide feedback and tips on how to improve technique and times.
- Built rapport among teammates by investing time to understand individual circumstance and development.

### Volunteer – Emergency Department

Aug. 2019 – Feb. 2020

*Health First Viera Hospital*

*Melbourne, FL*

- Supported medical staff under a high intensity environment
- Provided general non-medical care for patients in order to free up nurses and doctors to focus on higher priorities

## TECHNICAL SKILLS

**Languages:** Python, HTML, CSS, SQL, Scheme, R, Julia

**Frameworks:** WordPress

**Developer Tools:** VS Code, Atom, Git, Docker

**Molecular Modelling:** UCSF Chimera, VMD, NAMD, LAMMPS, AutoDock, AutoDock Vina, Avogadro

**Molecular Biology Techniques:** gel electrophoresis, plasmid genetic engineering

**Libraries:** pandas, NumPy, Matplotlib

## ACCOMPLISHMENTS

### Joel Ferrell Memorial Award for Outstanding Sportsmanship

2019

*AAU Summer Junior Olympics*

### 99 Ranch Market Scholarship

2016

*Southern California Chinese School Association*

### Piano - Certificate of Merit Level 8

2017

*Music Teacher's Association of California (MTAC)*