

## EDUCATION

**B.S.E. Computer Science and Engineering**, 2018-2022  
University of Iowa | GPA 3.47  
Engineering and General Honors Programs | Mathematics Minor

**Intended B.S. Chemistry**, 2017-2018  
University of California, Berkeley | GPA 3.53  
Transferred to University of Iowa

## EXPERIENCE

**Undergraduate Research Assistant** – *University of Iowa Technology Institute*

Iowa City, IA | May 2020-Present

- Developed algorithm to analyze oil weathering by linking compound signatures over different sample dates and filtering target vs non-target peaks in MATLAB
- This research will be applied to reduce the necessity and usage of dispersants in oil spill cleanup

**Undergraduate Research Assistant** – *University of Iowa Hydrosience & Engineering*

Iowa City, IA | June 2019-Present

- Investigate statistical and deep learning methods for predicting pH and ORP sensor readings from a chlorination system in Nicaragua
- Use TensorFlow and Keras libraries to build a multi-step LSTM network predicting those readings + chlorine levels, enabling community members in Nicaragua to regularly maintain the chlorinator

## PROJECTS

**Senior Capstone Project** – *University of Iowa, sponsored by Collins Aerospace*

Iowa City, IA | Nov 2020-May 2021

- Implementing an eye tracking algorithm using machine learning techniques to detect gaze direction of pilots' pupils within 3 degrees of error, as well as to record fixations and saccades
- Work with two other UI students to develop tool increasing safety among fatigued pilots

## ACHIEVEMENTS

- IEEE Oceans Conference Paper Co-Author, 2020
- INTEL International Science and Engineering Fair Finalist, 2017
- National Technology Student Association Biotechnology Finalist, 2017

## TEACHING AND VOLUNTEER

**Board Member & Instructor** – *University of Iowa Swing Dancing Club*

Iowa City, IA | May 2018-Present

- Teach local dance lessons to students and community members (pre-COVID)
- Update & maintain club website
- Organize area outreach projects

**Palliative Care & Burn Unit Volunteer** – *University of Iowa Hospitals and Clinics*

Iowa City, IA | May 2018-Dec 2018

- Aided physical therapists with patient rehabilitation, increased quality of life for palliative patients, and maintained a sanitary working environment in surgery rooms

**Board Member & Mentor** – *UC Berkeley's Lindy on Sproul*

Berkeley, CA | Aug 2017-May 2018

- Mentored students in weekly vintage swing dance classes
- Choreographed small group performances each semester

## SKILLS

- **Programming Languages:** Java, Python, C++, & MATLAB
- **Spoken Languages:** Ukrainian (Native), Spanish (Intermediate), Russian (Basic)
- **Design:** LaTeX, CAD (Autodesk Inventor), Adobe Photoshop, GraphPad Prism
- **Other:** Grafana, GitHub, SVN, MS Office, Data Collection