

Jesse Anderson

jander98@uic.edu || [linkedin.com/in/jesse-anderson-a7c5/](https://www.linkedin.com/in/jesse-anderson-a7c5/) | orcid.org/0000-0001-5731-5511

Education

University of Illinois at Chicago / BS Chemical Engineering

MAY 2023

GPA: 3.73 | Concentrations: Biochemical Engineering and Process Automation | Minor: Mathematics & Computer Science.

Skills

- Aspen Plus, Office Suite(Excel, Word, etc.)
- SnapGene, SuperPro Designer, Analytical Chemistry Methods, Organic Chemistry Methods
- Circuit design, Raspberry Pi, Arduino, blueprint interpretation and parts diagram reading.
- Hydraulic and diesel systems, carpentry, plumbing, and electrical experience
- MATLAB, Python, R, SQL, Julia, C++, VBA/VB, Markdown, Software Documentation,
- Machine Learning(focus on clustering algorithms/unsupervised learning), Tableau, GPU Computing, Parallel Computing

Experience

UNIVERSITY OF ILLINOIS AT CHICAGO

Undergraduate Research Assistant[Programmer]

December 2020-Present

- Develop Matlab/R/Python code for image analysis and clustering algorithms(DBSCAN/OPTICS/Ripley's K) for single molecule localization microscopy imaging.
- Create GUIs and manage Github repositories for the research team.

UNITED CONVEYOR CORPORATION

Summer Engineering Intern[Conveyor & Piping Support Design]

May 2022-August 2022

- Develop engineering software in VBA to automate design workflow and assist in engineering design calculations.
- Developed software to improve analysis workflow bottleneck by 540,000% by eliminating manual data entry.
- Automated 150 hours/yr of data entry, comparison and analysis tasks.
- Created and implemented a library of software tools for thermoplastic and thermoset material property analysis per ASME/AWWA/PPI standards.

G5 ENVIRONMENTAL

Safety/Project Manager

June 2016 - August 2019

- Served as project lead at job sites by ensuring completion of contract requirements by CDL team members.
- Ensured safe execution of any mechanical repairs by mechanics.
- Acquired parts on an as needed basis to ensure contracts serviced did not experience time offline

Projects

Senior Design Project[University of Illinois At Chicago][December 2022-May 2023]

Designed a bio-based process using *Lactobacillus reuteri* CH53 which reduces crude glycerol and corn dextrose to 1,3 propanediol. Significantly reduced costs, process hazards, and losses compared to the current Susterra DuPont process.

Analysis Automation for Deliverables[UCC Environmental][July 2022]

Automated 3 hours of data entry and analysis using OOP/File IO in VBA in Excel.

ImageJ File I/O Project for Immunofluorescent Imaging[Undergrad Research Assistant][March 2021]

Use low level file I/O operations and reading image metadata byte-by-byte to read in files larger than 4GB into MATLAB for analysis. Post processing included incorporation into existing file I/O programs and overcoming of an analytical bottleneck, which decreased runtime 269%

Publications

Gunasekara, H., Perera, T., Anderson, J., Saed, B., Ramseier, N., Keshta, N., & Hu, Y. S. (2023). Superresolution imaging with single-antibody labeling. *Bioconjugate Chemistry*, 34(5), 825–833. <https://doi.org/10.1021/acs.bioconchem.3c00178>