Ethan T. Holleman

CONTACT INFORMATION

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EDUCATION

Loyola University Chicago

B.S. Bioinformatics, Minor Computer Science

- GPA: 3.91
- Departmental Honors

HONORS AND AWARDS

Loyola University Chicago

- Dean's List, all semesters 2017 - 2020
- Mulcahy Scholar
- Provost Fellow
- Weekend of Excellence Recognized Student, 2017

University of Denver

- Dean's List, all semesters 2016 - 2017
- First Year Essay Contest Finalist

Eagle Scout, Boy Scouts of America, 2014

PROFESSIONAL AND RESEARCH EXPERIENCE

Biology with X-ray Free Electron Lasers Technology Center (BioXFEL)
Intern, May 2020 - August 2020
Developed a graphical user interface incorporating the MARCO crystal classification model for the high-throughput crystallization screening center at Haputman-Woodward Medical Research Institute with the goal of decreasing screen evaluation time for SARS-CoV-2 researchers.
Project Website and Documentation
GitHub Repository

Argonne National Laboratory
Industrial Macromolecule Crystallography Association (IMCA)
Intern and Researcher, May 2019 - September 2019
Coordinated a collaboration with researchers at Washington University in St. Louis and the Hauptman-Woodward Medical Research Institute. Operated the IMCA beamline attempting to determine the crystal structure of three novel Ebola protein-peptide interactions.
Latest Project Report

Loyola University Chicago
Laboratory of Dr. Howard Laten, Professor of Biology
Research Assistant, January 2019 - May 2020
Served as senior undergraduate on the bioinformatics team. Responsible for developing programs and methods to investigate LTR retrotransposons and their evolutionary and subsequent agricultural implications.

Loyola University Chicago
Laboratory of Dr. Jim Cheverud, Professor of Biology
Research Assistant, August - December 2018
Assisted in genetic data analysis of obesity related mice eQTLs by writing programs in Java, Python, and R which sorted and characterized laboratory data, helping to provide efficiencies in analysis.

Loyola University Chicago
Searle Biodiesel Laboratory
Laboratory Intern, May - August 2018
Managed, oversaw, and participated in the production, quality control, and chemical analysis of biodiesel reagents at an industrial scale. Included hazardous material training and day-to-day troubleshooting. Produced over 2,500 gallons of vehicle grade fuel.

City of Highland Park
Freshwater Treatment Plant
Itern, June 2017 - August 2017
Drafted updated plant standard operating procedures and participated in water quality testing in the field and with treatment plant chemists.

Fellowships

The State University of New York Research Foundation Academic Fellowship
Research Fellowship, May 2020 - August 2020, $5000 award
Awarded as part of the 2020 BioXFEL summer internship program. Award number 66377.

Loyola University Chicago Mulcahy Scholars Program
Research Fellowship, August 2019 - May 2020, $2000 award
Developing original and extending existing software to both identify novel retrotransposon insertions in modern soybean cultivars and remap outdated transposable libraries to their updated assemblies.

Loyola University Chicago Provost Fellowship
Research Fellowship, May 2017 - August 2017, $2000 award
Researched productivity of a locally sourced commercial mushroom substrate and investigated the economic viability of small scale mushroom cultivation business model in the Rodgers Park neighborhood of Chicago.

Posters and Presentations

International Plant and Animal Genome Conference poster acceptance, 2020
Scherago International, San Diego California
TARP: Transposable Element Assembly Remapping Pipeline

Great Lakes Bioinformatics Conference poster presentation, 2019
International Society of Computational Biology, University Wisconsin Madison
Inter-Assembly Remapping Pipeline for Transposable Elements

Presentation to IMCA-CAT board of directors, 2019
IMCA and Argonne National Laboratory
Exploring VP30 and RBBP6 Analog Complexes in the Ebola virus

Undergraduate Research Symposium, 2018
Loyola University Chicago
Cost Benefit Analysis of Small Scale Sustainable Mushroom Cultivation

Other Software

Inter-Assembly Transposable Element Remapping
Python based software to remap outdated transposable element libraries generated from old assemblies to the most updated versions.
TARP
Single Family Remapping Program

Fasta Tools Python Package
Designed python package downloadable through pip that includes common fasta file operations, automated consensus sequence generation and soybean assembly specific functions.
Fasta Tools GitHub Repository

Fridge Master 2000
Built and programmed a raspberry pi based smart fridge system capable of automated text message alerts and continual data archiving through a local FTP server.
Fridge Master 2000 GitHub Repository

Involvement

- President: Beta Theta Pi Fraternity, Loyola University Chicago
- Treasurer: Mycology Club
- Volunteer: Misericordia Home

Skills

- Languages: Python, Java, R, SQL, LaTeX, experience in Unix and HTML
- General lab skills and procedure: pipetting, microscope, titration, etc.
- Registered Advanced Photon Source user at Argonne National Labs, until October 2021
- Synchrotron based crystallography: general software and crystallography procedures
- 3D printing and design with basic CAD programs
- Personal computer design and assembly
- Microcontroller Programming *i.e* Arduino
- Flux core and shielded metal arc welding