

Jennifer Hammelman | CV

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📄 jhammelman.github.io

Education

Tufts University

B.S. in Biology and Computer Science, GPA – 3.72 Deans' List

Arts and Sciences

2012–2016

Experience

Research

CENTER FOR REGENERATIVE AND DEVELOPMENTAL BIOLOGY

Research Assistant

Tufts University

Sept 2014–Present

Member of Levin lab under Vannevar Bush Professor of Biology Michael Levin. Developing novel computational solutions for modeling regeneration pathways in the planarian flatworm.

Responsibilities:

- Reviewing primary literature for biological and computational subject matter related to regeneration, information flow and state modification, and computational modeling
- Overcoming obstacles to identifying unknown gene product from pathway information:
 - Querying a large database in optimal time (26 GB)
 - Simplifying search process by preprocessing file information
 - Leveraging C language low-level memory access for faster analysis
 - Mapping gene names to ensemble unique identifiers
- Increasing capability to query more complex subgraphs

DEPARTMENT OF COMPUTER SCIENCE

Research Assistant

Tufts University

Jun 2014–Aug 2014

Member of Bioinformatics and Computational Biology research group under Assistant Professor Ben Hescott. Set groundwork for network analysis of differential genetic interactions using epistatic miniarray profile data. Applied the department's current similarity metric algorithm developed for assigning function to protein-protein interaction networks, diffusion state distance (DSD) to genetic interaction networks.

Responsibilities:

- Reviewing primary literature on imputation and differential analysis of genetic interactions
- Developing program for running DSD on genetic interaction datasets
 - Parsing genetic interactions from differential datasets and databases
 - Running multiple statistical tests on DSD results
 - Determining and visualizing interactions of interest
- Preparing data for grant proposal

Instructional.....

DEPARTMENT OF COMPUTER SCIENCE

Teaching Assistant

Teaching assistant for the Data Structures course (COMP 0015).

Tufts University

Jan 2014–Present

Responsibilities:

- Preparing mini-lectures for laboratories on data structures: Dynamic Arrays, Linked Lists, Hash Tables, Binary Trees
- Grading Projects
- Holding office hours: Debugging project assignments by identifying logical and semantic errors, explaining course material, and advising on design strategies

Vocational.....

TYCO INTERNATIONAL

Shared Services Intern

Princeton, New Jersey

Jun 2013–Aug 2013

Member of a core project team focused on global implementation of BlackLine Account Reconciliation software for finance. Utilized Access SQL to create an efficient system for data manipulation and management.

Responsibilities:

- Consolidating Accounts Payable balance sheets
- Writing SQL queries in Access for importing user information from excel spreadsheets into BlackLine online software
- Developing a user manual for all BlackLine system accounting roles
- Planning presentation of culmination of intern work for the Finance Department

Computer skills

Basic Knowledge: MATLAB, R, Microsoft Sharepoint, Adobe InDesign, HTML, CSS

Intermediate Knowledge: PYTHON, C++, C, L^AT_EX, Microsoft Excel

Relevant Coursework

Tufts University

Undergraduate Courses

2012-2016

Biology

- General Chemistry
- General Genetics
- Molecular Biology
- Developmental Biology (*in progress*)
- Independent Research (*in progress*)

Computer Science

- Data Structures
- Machine Structure and Assembly Language Programming
- Programming Languages (*in progress*)
- Introduction to Algorithms (*in progress*)

Mathematics

- Discrete Mathematics
- Calculus I and II
- Linear Algebra (*in progress*)