Skyler Hallinan

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github.com/shallinan1   360-286-5645

EDUCATION

University of Washington   Seattle, WA
Bioengineering and Applied and Computational Mathematical Sciences; GPA: 3.80   *Sep. 2017 – Present*

Bainbridge High School   Bainbridge Island, WA
National AP Scholar, Biomedical Engineering Club, Math Club President; GPA: 3.99   *Sep. 2013 – Jun. 2017*

EXPERIENCE

Yager Lab, University of Washington   Seattle, WA
Undergraduate Researcher, Full-Time Paid Research Assistant (Summer 2019)   *Sep 2018 - Present*
- Conducted critical patent and literature review on uremic toxin removal via digestible hydrogels
- Experimentally tested size tunability, materials needed, and scalability of various hydrogels
- Modeled 3-D diffusion of target biomolecules in hydrogels in aqueous solution with COMSOL

Biomedical Informatics & Medical Education, University of Washington   Seattle, WA
Paid Research Assistant, Principal Investigator: Annie Chen, Ph.D   *Jan 2019 - June 2019*
- Worked collaboratively to create interactive and dynamic visualization dashboard via D3 and React to display data collected from mental health intervention app suites
- Used Python for backend data management such as clustering and reorganization

Dey Lab, Fred Hutchinson Cancer Research Center   Seattle, WA
Undergraduate Researcher, Principal Investigator: Neelendu Dey, M.D.   *Jun 2018 - Mar 2019*
- Used Python to subset gut microbiome metagenomes with target genes from BLAST data
- Explored relationships between multiomic datsets in R, focusing on secondary bile acid biosynthesis. Implemented data visualization packages such as ggplot2 for presentation of results

Hydration Monitor Team, Bioengineers Without Borders   Seattle, WA
Prototyping and Circuits Team Member   *Sep 2017 - Present*
- Designed various prototypes of infant hydration monitor targeted towards low-resource countries in Inventor and tested feasibility via 3D printing
- Used MATLAB to design and optimize transducer needed for ultrasound for hydration detection. Tested viability of different circuit configurations

IslandWood   Bainbridge Island, WA
Data Analysis Intern   *Jul 2017 - Aug 2017*
- Analyzed relationships between race/income and camp attendance across 10 years of demographic data via multivariate analysis, ANOVA, and correlation tests in R.
- Recommended solutions to community access problems in final presentation to IslandWood board of education

SKILLS

- **Languages**: LaTeX, Matlab, Java, R, Python. *Experience with* HTML5, CSS3, JavaScript, Racket, SML
- **Lab**: Pipetting, titration, chromatography, light microscopy, filtration, spectrophotometry, general dissections, PCR and gel electrophoresis
- **Design**: Inventor, COMSOL, FlashPrint

COURSEWORK

- **Lab Science**: Introductory Biology, Physics, and Chemistry, Organic Chemistry I
- **Mathematics**: Linear Algebra, Differential Equations, Calculus-based Statistics, Advanced Multivariable Calculus, Partial Differential Equations and Waves, Computational Methods for Data Analysis
- **Computer Science**: Introductory Java, Programming Languages
- **Engineering:** Biomedical Signals and Sensors (Course and Lab), Biochemical Molecular Engineering

PUBLICATIONS

A. Chen, J. Chang, **S. Hallinan**, and D. Mohr, "Mapping User Trajectories: Using Participant Flows to Examine Behavior and Outcomes in Digital Health Intervention Data", to be presented at the Visual Analytics in Healthcare, 2019