Skyler Hallinan

hallisky@uw.edu
github.com/shallinan1
360-286-5645

Education

- **University of Washington** — Seattle, WA
  Bioengineering and Applied and Computational Mathematical Sciences; GPA: 3.81 — *Sep. 2017 – Present*
  - **Honors:** Dean's List (all quarters), Stratos–Stephen Endowed Scholar, Robert B. Rodal Endowed Scholar
- **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, Project Lead: Hal Holmes, Ph.D — *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, Project Lead: Corll Morrissey, M.A.Ed — *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, Ruby
- **Lab**: Pipetting, titration, chromatography, light microscopy, filtration, spectrophotometry, general dissections, PCR and gel electrophoresis, centrifugation, absorbence/flourescence spectroscopy
- **Design**: Inventor, COMSOL, FlashPrint, ImageJ

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