

## EDUCATION

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- **University of Washington** Seattle, WA  
*M.S. in Computer Science* June 2022
- **University of Washington** Seattle, WA  
*B.S. in Computer Science, Bioengineering, and Applied Math; GPA: 3.84* June 2021
  - Honors: Levinson Emerging Scholar, Stratos–Stephen Endowed Scholar, Robert B. Rodal Endowed Scholar

## SKILLS

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- **Languages:** Java, Python, C/C++, MATLAB, R, L<sup>A</sup>T<sub>E</sub>X. *Experience with* HTML/CSS, JavaScript, SQL

## EXPERIENCE

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- **Undergraduate Researcher** Sep 2020 – Present  
*xlab, Paul G. Allen School of Computer Science & Engineering* Seattle, WA
  - Utilized commonsense framework from ATOMIC to assess propaganda and misinformation techniques in media
  - Explored different commonsense annotation schemes to improve quality of model-generated inferences
- **Undergraduate Researcher** Sep 2020 – Present  
*Noah's ARK, Paul G. Allen School of Computer Science & Engineering* Seattle, WA
  - Identified defining linguistic features of bilingual speakers, such as the occurrence of specific morphemes and parts-of-speech tags
  - Examined and modified existing commonsense frameworks to identify biases in news headlines
- **Undergraduate Researcher** Apr 2020 – Feb 2021  
*University of Washington Biomedical Informatics & Medical Education* Seattle, WA
  - Performed an exploratory temporal analysis on tweets related to COVID-19 via LDA topic modeling with gensim
  - Applied latent Dirichlet analysis on topic frequencies in various geographical regions to identify similarities and differences in content over time among areas in the United States
- **Research Intern** Aug 2019 – Dec 2020  
*NanoString Technologies* Seattle, WA
  - Refined the accuracy of precise UV light illumination on complex input masks through algorithm development in MATLAB to improve the digital spatial profiling technology in the GeoMX device line
  - Modeled light interactions with various external noise additions to locate and reduce 20% of noise artifacts
  - Improved time complexity of existing algorithm from  $\mathcal{O}(n^2)$  to  $\mathcal{O}(n \log n)$  by replacing the built-in convolution function with Fast Fourier Transform operations
- **Undergraduate Researcher** Jan 2019 – Jun 2019  
*University of Washington Biomedical Informatics & Medical Education* Seattle, WA
  - Built an interactive and dynamic visualization dashboard via D3 and React to display temporal data collected from digital health interventions for the use of clinicians
  - Experimentally identified an optimal clustering algorithm and set of hyperparameters for the data, with an average cluster coherence (via silhouette score) 15% higher than other algorithms
- **Undergraduate Researcher** Sep 2018 – Present  
*Yager Lab, University of Washington Bioengineering* Seattle, WA
  - Modeled 3-D diffusion of biomolecules into hydrogels in aqueous solution through Python and COMSOL to guide design of colon-targeted hydrogels to remove uremic toxins
  - Increased throughput of hydrogel production method by a factor of 96 via utilization of custom well plate dripper

## PUBLICATIONS

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A. T. Chen, J. H. Chang, **S. Hallinan**, and D. C. Mohr, “Mapping User Trajectories: Using Participant Flows to Examine Behavior and Outcomes in Digital Health Intervention Data”, presented at the Visual Analytics in Healthcare, 2019 (in conjunction with IEEE VIS 2019)