Ben Braun

Boulder, Colorado

CONTACT INFORMATION

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EDUCATION

Ph.D. Student, Computer Science & IQ Biology — 2024-Present
University of Colorado Boulder

Bachelor of Science, Computer Science — 2018-2022
Clemson University, Clemson, SC
Minors: Biological Sciences, Genetics

COMPUTER SKILLS

Languages: Python, Bash, R, C++, HTML/CSS/JavaScript, TeX;
Software: Unix, Jupyter, VS Code, Adobe Illustrator, IGV, Zotero, Obsidian;

EXPERIENCE

Associate Computational Biologist — 2022-2024
Dana-Farber Cancer Institute, Department of Medical Oncology, Boston, MA

- Led all computational biology tasks within the lab, including the design and implementation of projects and performing advanced downstream analyses of next-generation sequencing (NGS) data.
- Applied computational methods to cancer research, focusing on *STAG2*-mutant acute myeloid leukemia (AML) in human cell line and mouse models.
- Conducted research on transposable elements, R-loop dysregulation, and cohesin malfunction, contributing to the understanding of their roles in cancer development and genomic instability. This research contributed to two publications.
- Utilized Python, Bash, and R for data analysis, machine learning, visualization, and scripting to interpret complex biological data related to specific research areas.
- Synthesized research findings and presented them to internal lab members and external collaborators, effectively communicating complex data and insights. Developed and tested hypotheses for computational analysis, advancing the research agenda.

Research Assistant — 2020-2022
Clemson University, Department of Electrical Engineering, Clemson, SC

- Led a project analyzing a microfluidic sensor system, characterizing and classifying individual cells using dielectric and morphological measurements and machine learning.
- Assisted in sensor assembly and operation with MATLAB, and developed data processing pipelines in Python for normalization, feature selection, and model validation.
- Presented research findings at a poster session to a diverse audience.

PUBLICATIONS

- Ehrett, Carl, Matthew Keagle, Benjamin Braun, Nitya Harikumar, Jeffrey Osterberg, Neelima Dahal, and Pingshan Wang. "Supervised Machine Learning for Cell Classification in Microwave Flow Cytometers." IEEE Sensors Journal, 2025. https://doi.org/10.1109/JSEN.2025.3551914
- Dahal, Neelima, Jeffrey A. Osterberg, **Benjamin Braun**, Tom P. Caldwell, Ralu Divan, Sarah W. Harcum, and Pingshan Wang. "Spectroscopic Analysis of Candida Species, Viability, and Antifungal Drug Effects With a Microwave Flow Cytometer." *IEEE Journal of Electromagnetics,*

RF and Microwaves in Medicine and Biology 6, no. 4 (December 2022): 566–73. https://doi.org/10.1109/JERM.2022.3201698

- Wang, Amy, Lin Han, **Benjamin Braun**, Caroline Pitton, Johann-Christoph Jann, and Zuzana Tothova. "STAG2 Loss Induces HSC Programs By Modulating Accessibility of AP-1 Bound Enhancers." *Blood* 142, no. Supplement 1 (November 2, 2023): 1385–1385. https://doi.org/10.1182/blood-2023-190327
- Jann, Johann-Christoph, Christopher B. Hergott, Marisa Winkler, Yiwen Liu, **Benjamin Braun**, Anne Charles, Kevin M. Copson, et al. "Subunit-Specific Analysis of Cohesin-Mutant Myeloid Malignancies Reveals Distinct Ontogeny and Outcomes." Leukemia 38, no. 9 (September 2024): 1992–2002. https://doi.org/10.1038/s41375-024-02347-y