Jordan Eli Rossen

Contact Information

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Google Scholar Profile Link
Github Link

Education

Harvard University 2020 - 2025
PhD in Epidemiology - Statistical genetics
PhD advisor: Alkes Price

Harvard University 2020 - 2025
M.S. in Biostatistics

Tufts University 2013 - 2017
B.S. with majors in Computer Science and Chemistry
Major GPA: 3.95, GPA: 3.89

Professional Experience

Harvard University Alkes Price Group
PhD Researcher 2020-2025

- Developed MultiSuSiE, an open source Python package for multi-ancestry fine-mapping with higher power and lower computational cost than alternative methods and applied the method to analyze 200,000 whole genome sequences from All of Us (Rossen et al. 2024 bioRxiv).
- Studied differences in heritability components across ancestries using hundreds of thousands of whole genome sequences from All of Us (Rossen and Price 2024 American Society of Human Genetics Conference).

Broad Institute of MIT and Harvard Cancer Data Science Group
Associate Computational Biologist II 2019 - 2020
Associate Computational Biologist I 2017 - 2019

- Developed data processing methodology for DepMap Achilles, a public, high-throughput CRISPR-Cas9 genome-scale knockout dataset (Dempster et al. 2019 BioRxiv, $>$1,000 cell lines x 20,000 genes).
- Led assay development analysis for PRISM, a high-throughput, in-vitro drug screening platform (Corsello et al. 2020 Nature Cancer, $>$500 cell lines x 4,500 drugs).
- Analyzed public high-throughput drug screening datasets to identify promising small molecules (Tsvetkov et al. 2019 Nature Chemical Biology, Tsvetkov et al. 2022 Science).

Pfizer Inc. Precision Medicine
Molecular Data Intern Summer 2016

- Designed and implemented an internal metabolomics biomarker database using RShiny.

University of Illinois Kami Hull Organometallic Catalysis Group
REU researcher Summer 2015

- Expanded the reaction scope of ex-situ, Pd-catalyzed, chloroform-based alkoxycarbonylation reactions.

Tufts University Lin Computational Chemistry Group

Research Assistant 2013 - 2014

- Programmed molecular dynamics simulations of liquid argon, oxygen, and water using Fortran.

Teaching Assistant

Harvard University Department of Epidemiology

Causal Inference (EPI207), Jamie Robbins Fall 2022, Fall 2023

Advanced Population and Medical Genetics (EPI511), Alkes Price Spring 2023

Tufts University Department of Computer Science

Algorithms (COMP160), Gregory Aloupis Fall 2017, Spring 2017

Awards

Platform Talk - American Society for Human Genetics 2023
F31 Grant - National Institutes of Health 2023
Spot Award - Broad Institute, Level 2 2019
Deans List - Tufts University 2013 - 2017
Snyder Scholarship - UIUC, Department of Organic Chemistry 2015
Iowa State Policy Debate Tournament - 2nd place 2013

Programming

- Proficiency in R and Python
- Experience in C, C++, and Matlab

Publications

Rossen, J., Shi, H., Strober, B., Zhang, M.J., Kanai, M., McCaw, Z.R., Liang, L., Weissbrod, O., Price, A.L., 2024. MultiSuSiE improves multi-ancestry fine-mapping in All of Us whole-genome sequencing data. medRxiv.

Strober, B.J., Zhang, M.J., Amariuta, T., **Rossen, J.**, Price, A.L., 2024, Fine-mapping causal tissues and genes at disease-associated loci. in press at Nature Genetics.

Tsvetkov, P., Coy, S., Petrova, B., Dreishpoon, M., Verma, A., Abdusamad, M., **Rossen, J.**, Joesch-Cohen, L., Humeidi, R., Spangler, R.D. and Eaton, J.K., Frenkel, E., Kocak, M., Corsello, S.M., Lutsekno, S., Kanarek, NM., Santagata, S., Golub, T.R., 2022. Copper induces cell death by targeting lipoylated TCA cycle proteins. Science, 375(6586), pp.1254-1261.

Dempster, J.M., **Rossen, J.**, Kazachkova, M., Pan, J., Kugener, G., Root, D.E., Tsherniak, A., 2019. Extracting biological insights from the project achilles genome-scale CRISPR screens in cancer cell lines. BioRxiv, p.720243.

Corsello, S.M., Nagari, R.T., Spangler, R.D., **Rossen, J.**, [33 others], Golub, T.R., 2020. Discovering the anticancer potential of non-oncology drugs by systematic viability profiling. Nature Cancer, 1(2), pp.235-248.

Tsvetkov, P., Detappe, A., Cai, K., Keys, H.R., Brune, Z., Ying, W., Thiru, P., Reidy, M., Kugener, G., **Rossen, J.**, Kockac, M., Kory, N., Tsherniak, A., Santagata, S., Whitesell, L., Ghobrial, I.M., Markley, J.L., Lindquist, S., Golub, T.R., 2019. Mitochondrial metabolism promotes adaptation to proteotoxic stress. Nature Chemical Biology, 15(7), pp.681-689.