David Ross

Summary

Bioinformatics software engineer and data scientist with an M.S. in Bioinformatics and Computational Biomedicine from OHSU. Experienced in working with cross-disciplinary teams to advance biomedical research by building scalable, high-performance software and interactive analysis tools. Skilled in method development, tool creation, reproducible workflow design, cloud infrastructure deployment, and modern data visualization frameworks.

Key Skills

- Software Development
- Data Analysis & Visualization
- Technical Communication
- Bioinformatics Pipelines
- Python
- R
- SQL
- Nextflow
- Docker
- Git
- AWS
- Terraform

Work Experience

Senior Scientific Software Engineer — Scale Biosciences Inc. — Remote · *Jan 2024 - Aug 2025*

- Technical lead for single-cell RNA-seq and methylation data analysis workflows
- Developed automated testing and release workflows for reproducible pipelines and improved developer productivity
- Maintained and optimized AWS cloud infrastructure for scientific computing

Data Scientist — NanoString Technologies Inc. — Remote · *Aug 2021 - Oct 2023*

- Developed interactive visualization tool for large-scale image data using Python, napari, Dask, and Zarr
- Method development and implementation for a novel spatial multiomics platform leveraging tools in the R statistical ecosystem and SciPy stack
- Contributed to figures—including cover—and analysis for published manuscript on CosMx SMI technology
- Built R&D workflows on AWS using Jenkins, Terraform, and Docker
- Co-inventor on patent "Method and system of multi-modal sub-cellular segmentation"
- Technical mentor to biologists and junior engineers.

Biostatistics Intern — NanoString Technologies Inc. — Remote · *Feb 2021 - Jun 2021*

- Developed interactive visualization tool using R Shiny for exploring spatial transcriptomics data
- Contributed to development of new data analysis pipeline for technology access program
- Presented interactive visualization tool to senior leadership and customers

Bioinformatics Scientist Intern — Providence Cancer Center — Portland, Oregon · *Jul 2020 - Sep 2020*

- Bioinformatics analyses for cancer immunology research in collaboration with immunologist PI
- Analyzed tumor-infiltrating lymphocyte scRNA-seq data using Seurat
- Built interactive R Shiny applications for multiplex IHC and TCR-seq data analysis

Education

Master of Science — Oregon Health & Science University — Portland, Oregon · *Sep 2019 - Jun 2021*

- Major: Bioinformatics and computational biomedicine
- Related coursework: Statistics, Machine Learning, Bioinformatics Algorithms, Computational Genetics, Data Visualization

Post-Baccalaureate — Portland State University — Portland, Oregon · *Sep 2018 - Jun 2019*

- Major: Biology
- Related coursework: Genetics, Molecular Biology, Cell Biology, Virology, Cancer Biology

Massive Open Online Courses — edX.org · *2016 - 2018*

- Related coursework: Chemistry, Biology, Differential Equations, Data Science

Bachelor of Arts — Davidson College — Davidson, North Carolina· *1998*

- Major: Economics

Additional Work Experience

Independent Software Developer — David Ross Software — Portland, Oregon · *2004 - Jun 2014*

- Developer of Windows, Mac, and iOS apps
- Created multiple apps for iOS platform including Uni Sudoku which was featured in the launch of the App Store for iPad
- Created the Knit Buddy iPhone app in partnership with *Vogue Knitting*

Software Developer — American Management Systems — Fairfax, Virginia · *Aug 1998 - Jul 2002*

- Developed market-leading financial management software sold to federal civilian agencies with up to 5000+ users
- Technical manager in charge of release-specific enhancements and responsible for improving software development processes from design stages through implementation
- C++ application server and Smalltalk GUI development
- Complex data manipulation with SQL on various relational database platforms

Publications

- He, S. et al. High-plex imaging of RNA and proteins at subcellular resolution in fixed tissue by spatial molecular imaging. Nat Biotechnol 40, 1794–1806 (2022). doi:10.1038/s41587-022-01483-z.
- Duhen, R. *et al.* PD-1 and ICOS co-expression identifies tumor-reactive CD4 T cells in human solid tumors. *Journal of Clinical Investigation* (2022) doi:10.1172/JCI156821.
- Rajamanickam, V. *et al.* Robust Antitumor Immunity in a Patient with Metastatic Colorectal Cancer Treated with Cytotoxic Regimens. *Cancer Immunol Res* (2021) doi:10.1158/2326-6066.CIR-20-1024.
- Danaher, P. et al. Insitutype: likelihood-based cell typing for single cell spatial transcriptomics. (2022) doi:10.1101/2022.10.19.512902.
- Kolar, G. R., Ross, D., Killingbeck, E. E., Samson, W. K. & Yosten, G. L. C. Spatial molecular imaging of the human type 2 diabetic islet. (2023) doi:10.1101/2023.01.04.519955.
- Sofroniew, N. et al. napari: a multi-dimensional image viewer for Python. doi:10.5281/zenodo.3555620. (open-source contributor for napari 0.4.18)