DAVID L. GIBBS

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Professional Summary

Senior Research Scientist with 10+ years experience with single-cell and spatial data, multi-modal data integration, and AI/ML in immuno-oncology. Strong communication skills, adept at statistical modeling, cloud computing, and scientific software development. Proven track record of carrying high-impact projects to successful end points.

Key Skills

- Machine Learning & AI in Computational Biology
- Immuno-oncology & Cancer Research
- High-Performance Computing & Cloud Platforms
- Statistical Methods Development & Big Data Analysis
- Manuscript and Grant writing
- Technical Team Management

Professional Experience

Institute for Systems Biology (ISB)
Senior Research Scientist, Seattle, WA, 2019 – Present

- Developed AI and machine learning methodologies for predicting cell type compositions in spatial data in the **Cancer Systems Biology Consortium (NCI CSBC)**.
- Co-led computational biology research component focused on tissue inflammation and cancer progression with the **CRUK grand challenges**.
- Currently leading the web development team on the **CRDC Imaging Data Commons**, a 36TB+ data repository supporting cancer imaging research.
- Played a key role in the **TCGA PanCancer Atlas Immune Response** working group, analyzing immune-related gene signatures to identify cancer-immune subtypes.
- Curated and developed an interactive immunotherapy focused data resource and analysis web portal with the **Cancer Research Institute**, the CRI iAtlas.
- Developed metadata standards for novel data types as part of the **Human Tumor Atlas Network (HTAN)**.
- Teach classes and mentor students in the summer intern program.

Education

- Postdoc Fellow**,** Institute for Systems Biology, 2016-1017, Advisor: Dr. Ilya Schmulivich
- Ph.D. & Postdoc, Bioinformatics & Computational Biology, Oregon Health and Science University, 2009-2015, Advisor: Dr. Shannon McWeeney
- Bachelor of Science, Chemistry, Reed College, 1999

Select Publications

- *Gibbs et al. (2025)* Robust Cluster Prediction Across Data Types Validates Association of Sex and Therapy Response in GBM. Cancers.
- *Strasser, Gibbs, et al.* (2025) Concerted epithelial and stromal changes during progression of Barrett's Esophagus to invasive adenocarcinoma exposed by multi-scale, multi-omics analysis. Dev Cell.
- *Thorsson & Gibbs et al. (2019).* The Immune Landscape of Cancer. Immunity.
- *Gibbs & Shmulevich (2017).* Influence Maximization in Biological Networks. PLoS Comput Biol.
- *Gibbs et al.* (2014) Multi-omic network signatures of disease. Frontiers in genetics
- h-index = 19
- https://scholar.google.com/citations?user=lMvBJ3IAAAAJ

Honors & Appointments

- 2023 Innovator Award at ISB
- Co-PI of Imaging Data Commons, a central hub for cancer research data
- Postdoctoral Fellow, Institute for Systems Biology
- National Library of Medicine Postdoctoral Fellowship
- ISCB Travel Fellowship
- NLM Predoctoral Fellowship (ARRA Grant)

Technical Tools & Platforms

- **Languages:** Python, R, SQL, C++11
- **Cloud Platforms:** Google Cloud, BigQuery
- **Machine Learning:** PyTorch, Scikit-learn, Scikit-Image
- **Bioinformatics Tools:** Bioconductor, Scanpy, Spatial/image analysis