Multiple graduate and postdoctoral positions in data science in cell imaging

Multiple fully funded positions are immediately available for bioinformatics postdocs/graduate students in Assaf Zaritsky's lab of computational cell dynamics as part of the super exciting and ambitious Wellcome Leap ΔTissue program.

The research in our lab, established Oct. 2018 at Ben-Gurion University of the Negev (BGU), is at the interface of cell biology and computer science. We develop and apply a broad range of computational methods to produce biological insights along with specialized analytic tools that reveal hidden patterns in complex cell imaging data. The main research themes in the lab are multicellular information processing and interpretable AI in cell imaging, with specific focus on bridging the scales from single cell to multicellular behavior and decision making. This type of interdisciplinary research is enabled by close cooperation with experimental cell biologists all around the globe, an approach so far proving synergistically rewarding and exciting. The lab is affiliated with the Department of Software and Information Systems engineering, an applied computer science department with research spanning from machine learning, data science, cyber security and biomedical informatics.

Make this transition to bioimage informatics to follow Gene Myers' (BLAST) belief that extracting information from microscopy images will "reveal more about the function of the entities encoded in the genome then any other approach and will eventually become a prevailing paradigm of investigation, like sequence-based discovery is today"!

Our lab is one of the 16 selected Delta Tissue (ΔTissue) teams, a program funded by Wellcome Leap, a nonprofit organization that builds bold, unconventional programs that aim to deliver breakthroughs in human health. ΔTissue aims to build a 'tissue time machine' platform for integrated predictive modeling of key cell and tissue states and transitions. Our part will involve developing and applying new data-driven methodologies for bottom-up modular characterization of disease tissue state via close collaboration with the top experimental teams selected to participate in ΔTissue. This is a very rare opportunity for computational scientists to gain access to unique datasets with vast clinical significance, to develop technologies at the front of an emerging field, and potentially make real impact to human health!

Excellent candidates from a wide range of backgrounds and experiences will be considered. Priority will be given to candidates with a solid background in computer science or similar fields. Previous knowledge and/or experience in computer vision/image analysis, machine learning, extensive programming, microscopy and cell biology is an advantage. Start date in flexible within the next year, with preference to an early start.

Interested applicants should send a CV and a brief cover letter (please indicate explicitly why you are interested in the research and how your background provides a good fit). Feel free to contact me with any question.

Related information:

- Lab website: https://www.assafzaritsky.com/
- Assaf's Twitter account: https://twitter.com/AssafZaritsky
- Wellcome Leap: https://wellcomeleap.org/
- ΔTissue: https://wellcomeleap.org/delta-tissue/
- "Dry" cell biology essay (2016): https://www.nature.com/news/cell-biologists-should-specialize-not-hybridize-1.20277
- Data science in cell imaging perspective (2021): https://journals.biologists.com/jcs/article/134/7/jcs254292/238123/Data-science-in-cell-imaging