Lab: Khomtchouk Lab (http://med-faculty.bsd.uchicago.edu/Default/Details/17016)

Location: Department of Medicine, Section of Computational Biomedicine and Biomedical Data Science, Institute for Genomics and Systems Biology

Status: Remote/online. Successful applicants will be registered to receive academic research class credits towards their respective degree program (e.g., “CMSC 29700: Reading and Research in Computer Science” or “CMSC 29900: Bachelor’s Thesis” for computer science majors; or their BIOS, STAT, MATH or other equivalent such as “Biology Honors Research”, “STAT 29700: Undergraduate Research”, “STAT 29900: Bachelor’s Paper”, “NSCI 29100: Neuroscience Thesis Research”, etc.)

Eligibility: Open to any majors in undergraduate class (mostly third and fourth years), as well as MSc graduate students currently enrolled at the University of Chicago (Biological Sciences Division, Physical Sciences Division, etc.). To learn more about course registration details, see: https://registrar.uchicago.edu/registration/college-process/reading-research/

Duration: One (or multiple) consecutive quarters

Research Opportunities:

The Khomtchouk Lab specializes broadly in biomedical data infrastructure and analysis across the following research tracks:

**Track #1:** Augmented and virtual reality technology for biomedical data visualization and its interface with WebAssembly (Wasm). Relevant ongoing work (not yet published): https://www.youtube.com/watch?v=EDIyXSbBnVU& https://www.youtube.com/watch?v=IEDvXSbBnVU&

**Track #2:** Bioinformatics software engineering to create large-scale technical infrastructure platforms for life sciences data, with a focus on cardiovascular disease (#1 cause of death in the world). Relevant prior publications:


**Track #3:** Secondary analysis of existing clinical and genetic research datasets in biological focus areas such as: HIV-associated cardiovascular disease, alcohol addiction, codon usage bias in the genetic code, AI/ML methods for drug discovery, etc. Relevant prior publications:


For project details -- if you are interested in this opportunity and would like to receive further information, send cover letter indicating interest in track, course #, and updated CV/resume to Dr. Bohdan Khomtchouk: bohdan@uchicago.edu