Anton Petushkov

22301 NE 17th Ct, Sammamish, WA 98074

(408) 306-2483 antonpet@umich.edu linkedin.com/in/antonpet github.com/anpetushkov

Education

University of Michigan **Aug. 2022 – Apr. 2025**

BSE in Computer Science; Minor in Mathematics *Ann Arbor, MI*

Technical Skills

Computer Skills: 2+ years of experience with Machine Learning; Python; Big Data; Data Structures; Algorithms in C++
Statistics: 2+ years of experience with statistical analyses and research; Linear & Logistic Regression Analysis; Statistical Testing; Data Visualization; Data Analysis; Data Cleaning

Work Experience

BeiGene **Jun. 2022 – Aug. 2022**

Data Science Intern *Cambridge, MA*

- Cleaned a database of over 40,000 clinical trials using Excel and Python to increase data quality and completeness in preparation for a study.
- Learned visualization skills for data representation of clinical trials spatiotemporally and comparatively using Excel and Power BI.
- Analyzed the burden of cancer over time comparative to the growth in cancer trials, broken down by cancer subtype, to determine which states in India have the most disparate inaccessibility to clinical trials.

Project Experience

Society of Undergraduate Math Students | *Web Development* **Aug. 2023 - Present**

- Using Google Sites to build a website to centralize the Society of Undergraduate Math Students resources, including events, blogs, and newspapers.

Data Structures & Algorithms | *C++* **Jan. 2023 - Apr. 2023**

- Made a scalable relational database capable of efficiently processing database queries and storing information.
- Used breadth-first search and depth-first search to find a path through a 3D-maze.
- Implemented heap-based and pairing priority queues to use in a realistic Star Wars combat simulator.

Harvard Data Science in Action | *Python* **Jul. 2021**

- Built a self-driving toy car using convolutional neural networks that could recognize three separate images.
- Reduced image backlog three-fold to speed up computational speed and car reaction time.
- Created professional presentations demonstrating car-usage and image recognition leading to autonomous driving.

Research Experience

MIT Critical Data **Jul. 2021 – Present**

Research Intern *Cambridge, MA*

- Surveying over 100,000 scientific preprints to analyze the statistical relationship between an authorship team's gender diversity and preprint's readability.
- Using large language models to extract social determinants of health from 300,000+ patient electronic health records to mitigate harm from biases on machine learning algorithms.
- Developing a network analysis framework to map clinical disparities in clinical care with social determinants of health, furthering understanding of sources and drivers of health data bias.
- Constructing a machine learning model to predict fluid levels necessary during fluid resuscitation for patients with sepsis in the intensive care unit.
- Conducted statistical testing and linear regressions to find the major demographic factors in a clinical AI fairness paper's citation count and funding status.

DIAG Health Research Team **Jan. 2023 – Present**

Research Intern *Ann Arbor, MI*

- Creating machine learning pipelines and image augmentation to improve accuracy of computer vision models detecting cancer sites.
- Working on a scalable and replicable process for cancer detection within histopathology slides with a diverse team of clinicians and computer scientists.

Submitted Manuscripts

1. ∗†Alberto, I. R. I., Alberto, N. R. I., Altinel, Y., Blacker, S., Binotti, W. W., Celi, L. A., Chua, T., Fiske, A., Griffin, M., Karaca, G., Mokolo, N., Naawu, D. K. N., Patscheider, J., **Petushkov, A.**, Quion, J., Senteio, C., Taisbak, S., Tırnova, İ., Tokashiki, H., ... Yap, K. (2023). *Who does the fairness in health AI community represent?* https://doi.org/10.1101/2023.03.20.23287471

2. Gao, P., Chen, J., Hong, Z., Choi, M., Morgan, A., **Petushkov, A.**, Lall, R., Liu, C., Krishna, V., Arroju, V., Sunkavalli, C., Kim, G., & Reddy, B. Y. (in press). Landscape of cancer clinical trials in India – A comprehensive analysis of the Clinical Trial Registry-India. *The Lancet Regional Health – Southeast Asia.*

3. Nazer, L., Abusara, A., Aloran, B., Szakmany, T., Nabulsi, H., **Petushkov, A.**, Charpignon, M.-L., Ahmed, T., Cobanaj, M., Elaibaid, M., Lee, C., Li, C., Mlombwa, D., Moukheiber, S., Panitchote, A., Parke, R., Shapiro, S., Woite, N. L., & Celi, L. A. (2023). *Patient diversity and author representation in clinical studies supporting the Surviving Sepsis Campaign guidelines for management of sepsis and septic shock.*

∗The authors contributed equally to the manuscript and are listed alphabetically.
†Featured in *Nature News*: Wong, C. (2023). AI 'fairness' research held back by lack of diversity. *Nature.* https://doi.org/10.1038/d41586-023-00935-z

Awards

University Honors	*University of Michigan, Apr. 2023*
Deans Honors List	*University of Michigan, Apr. 2023*
William J. Branstrom Freshman Prize	*University of Michigan, Mar. 2023*