

# D A R I I A K U C H E R U K

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## EDUCATION

**University of Toronto | Toronto, Canada**

Ph.D. in Computer Science - GPA 4.0 - Advisor: [Michael Brudno](#)

Sep 2023 -  
Nov 2028

**National University of Kyiv-Mohyla Academy | Kyiv, Ukraine**

Honors Bachelor's Degree in Computer Science - Thesis co-supervised by [Michael Brudno](#)

Sep 2019 -  
Jul 2023

## RESEARCH RECORD

1. **Kucheruk D**, et al. *Optimizing Segmentation of Neonatal Brain Mri with Partially Annotated Multi-Label Data*. (In Preparation for ML4H)
2. **Kucheruk D**, Chevalier F. *We Don't Know and Neither Do You: Acknowledge, Visualize, and Stress the Unknown*
3. Tsepa O, **Kucheruk D**, Anderson A. *Unsupervised Detection of Bot Clusters on Twitter*.

## RESEARCH & WORK EXPERIENCE

**Machine Learning Researcher | University Health Network (UHN)**

*involves collaboration with [SickKids Hospital](#) and [Vector Institute](#)*

May 2022 -  
Present

- Built a new neonatal brain MRI segmentation model based on training on partially labeled data to boost the original model performance.
- Created an MRI scans preprocessing pipeline to normalize data and perform inhomogeneity bias field correction.
- Performed experiments on the proprietary and open datasets to validate the results and prepared a research paper.

**Software Engineer Golang | Employer: SoftServe**

Client: [Cisco](#), Project: **Adaptive security appliance software**

June 2021 -  
May 2022

- Wrote an internal Kubernetes plugin, which improved the troubleshooting process and solved duplication issues.
- Performed refactoring on a job, leading to its best-effort behavior in the upgrade scenario.
- Updated Helm templates which resulted in pure and simple logic without code duplication.

Client: NDA, Project: **Backend for Product Analytics Platform**

- Performed refactoring by removing a redundant micro-service which led to grand maintainability improvement of services and more advanced architecture.
- Refactored inner services functions resulting in easier testing and readability.
- Wrote Unit Tests and raised test coverage up to 80% on each service.

## SKILLS

**Programming languages:** Python, Golang, Java

**Frameworks & other:** Tensorflow, PyTorch, Docker, Kubernetes, AWS, Git, LaTeX, PostgreSQL

## RELEVANT EXPERIENCE

### Teaching Assistantship | University of Toronto

Sep 2023 -  
Present

- Leading a tutorial session for CSC207: Software Design
- Creating assignments (prep TA) and mentoring students (regular TA) for CSC384: Introduction to Artificial Intelligence
- Mentoring students and marking exams for CSC343H1S: Introduction to Databases

### A Two-Sided Recommender System for a Dating App | NDA

Apr 2022 -  
May 2022

Implemented several algorithms, such as User-based and Content-based collaborative filtering

### A Platform for University IT Department | Kyiv-Mohyla Academy

May 2021 -  
Jul 2021

- Led a team of developers working on a documentation management system that automates the process of scholarship assignments, calculating students' GPAs, and collecting other statistical data
- Developed a customized PDF parser which made the process of automatic scholarship assignment available to the IT department.
- Developed and maintained service architecture (microservices), developed a PostgreSQL database from scratch, and implemented REST API.

[Github repo](#)

## VOLUNTEERING

### Admission Triager | DCS Graduate Admissions Committee at UofT

Dec 2023

- Assessing the quality of the applicant based on their submitted transcripts, reference letters, industry experience, and statement of purpose.
- Mapping courses the applicant has taken with courses at U of T to assess whether applicants have the requisite background for programmatic success.
- Weighing reference letters based on the academic standing of the writer.
- Providing feedback to the admissions committee on issues with individual files that the committee may want to explore in more detail.

## AWARDS & HONORS

Mitacs Globalink Research Internship Award (\$12,000 CAD)

Jan 2023

Temerty Foundation Kma Exchange Program Scholarship (\$10,000 CAD)

Sep 2022

George And Helen Vari Scholars At Risk Awards At The University Of Toronto(\$10,000 CAD)

Aug 2022

Undergraduate Summer Research Program At The University Of Toronto(~\$7500 CAD)

May 2022