Ivan Zvonkov

Curriculum Vitae

ivan.zvonkov@gmail.com

EDUCATION

2023 - Present **PhD. Computer Science,** Arizona State University

2021 - 2023 **M.S. Computer Science,** University of Maryland, College Park
Thesis: "Usable Machine Learning for Remote Sensing Data"

2015 - 2020 **B.E. Software Engineering,** University of Western Ontario
Capstone: **"**Forestcasting - Forest fire prediction powered by analytics"

EXPERIENCE

2021 - Present **Machine Learning Engineer**, NASA Harvest **-** College Park, MD
Researching and deploying machine learning systems using remote sensing data for agriculture. Supervised by Dr. Hannah Kerner & Dr. Catherine Nakalembe.

2020 - 2021 **Data Scientist,** TradeSun - San Diego, CA
Developed data and machine learning pipelines for Trade Finance automation.

2018 - 2019 **Software Engineering Intern**, IBM - Markham, ON
Full stack software development on the Digital Business Automation team.

PUBLICATIONS

Tseng, G.*, **Zvonkov, I.***, Purohit, M., Rolnick, D., and Kerner, H (2023). Lightweight, Pre-trained Transformers for Remote Sensing Timeseries. Preprint.

Zvonkov, I., Tseng, G., Nakalembe, C., Kerner, H. (2023). OpenMapFlow: A Library for Rapid Map Creation with Machine Learning and Remote Sensing Data. To appear at AAAI Conference on Artificial Intelligence, AI for Social Impact.

Tseng, G., **Zvonkov, I.**, Nakalembe, C., Kerner, H. (2021). CropHarvest: a global satellite dataset for crop type classification. Neural Information Processing Systems (NeurIPS) Datasets and Benchmarks, https://openreview.net/pdf?id=JtjzUXPEaCu

WORKSHOPS AND TUTORIALS

Workshop on Machine Learning for Remote Sensing, ICLR (International Conference on Learning Representations) 2023. https://nasaharvest.github.io/ml-for-remote-sensing/iclr2023

Scalable Cropland Mapping (4 day workshop), University of Maryland 2022.
https://nasaharvest.github.io/rcmrd2022.html

Tutorial on Machine Learning for Remote Sensing: Agriculture and Food Security, IEEE CVPR (Conference on Computer Vision and Pattern Recognition) 2022.
https://nasaharvest.github.io/cvpr2022.html

SELECTED TALKS

1. OpenMapFlow: Rapid Map Creation with Machine Learning and Earth Observation, AGU 2022.
2. CropHarvest: a global satellite dataset for crop type classification, Living Planet Symposium 2022.
3. Helmets Labeling Crops: Obtaining large datasets through citizen-science. Living Planet Symposium 2022 (with Dr. Catherine Nakalembe)
4. "NASA Harvest's Cropland Mapping Module", presented to several partner organizations, https://www.youtube.com/watch?v=85da2hZqobA
5. "Data Efficient Land Classification Models", AMLD Africa 2021 (with Gabriel Tseng)

OTHER ACTIVITIES

2022 Panelist, Localizing AI at SatSummit 2022
2020 Contributor, Towards Data Science
2018 President, Engineering Student Societies' Council of Ontario

HONORS & AWARDS

2020 Winner of the Ontario Software Engineering Capstone Projects Competition
2019 Institute of Electrical and Electronics Engineers Inc. I.E.E.E. Award (UWO)
2019 The Parents Fund Award in the Faculty of Engineering
2019 IBM Manager's Choice Award
2017 Steinmetz-Woonton Scholarship
2017 MacKay-Lassonde Award in Computer Engineering
2015 The Western Scholarship of Excellence