CURRICULUM VITAE

Maksym Neyra-Nesterenko

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EDUCATION

M.Sc., Applied Mathematics – Simon Fraser University — Sep 2020-Mar 2023

- Thesis title: *Unrolled NESTA: constructing stable, accurate and efficient neural networks for gradient-sparse imaging problems*
- Committee: Ben Adcock, Nilima Nigam, Ozgur Yilmaz

B.Sc., Mathematics Honours – Simon Fraser University — Sep 2014-Apr 2020

- Minor in *Computing Science*
- Thesis title: *Diversities, Cluster Analysis, and Ultrametric Embeddings*
- Committee: Paul Tupper, Jonathan Jedwab

TECHNICAL SKILLS

- Linux, Windows
- Python, Git, Bash, MATLAB, LaTeX, SQL
- PyTorch, Tensorflow, Numpy, Pandas, Jupyter
- Machine learning, deep learning
- Data and numerical analysis
- Web scraping

RESEARCH ASSISTANTSHIPS

Undergraduate Research Assistant – Simon Fraser University

- NSERC USRA project supervised by Paul Tupper — May-Aug 2017
- USRA project supervised by Karen Yeats — May-Aug 2016

WORK EXPERIENCE

Data scientist – Statistics Canada — Oct 2019-Aug 2020, Jan-Apr 2019, May-Aug 2018

- Designed and implemented OpenTabulate, a data pipeline command line tool
- Assembled datasets for Canadian health and education facility microdata

PUBLICATIONS

Journal papers

- M. Neyra-Nesterenko & B. Adcock, *NESTANets: stable, accurate and efficient neural networks for analysis-sparse inverse problems.* Sampl. Theory Signal Process. Data Anal. **21**, 4 (2023)

Conference abstracts

- B. Adcock & M. Neyra-Nesterenko. Provably Accurate, Stable and Efficient Deep Neural Networks for Compressive Imaging. In *International Conference on Computational Harmonic Analysis,* volume 48. 13-17 Sep 2021.

PRESENTATIONS

Contributed talks

- *Unrolled NESTA: constructing stable, accurate and efficient neural networks for gradient-sparse imaging problems* – Math Grad Social Seminar (Feb 7, 2023)
- *Restart schemes: a powerful parameter-free acceleration scheme for first-order methods*
  SFU Applied Math Seminar (Nov 23, 2022)
- *Stable, accurate and efficient deep neural networks for reconstruction of gradient-sparse images*
  SIAM Pacific Northwest Conference (May 21, 2022)
- *Stable, accurate and efficient deep neural networks for gradient sparse imaging*
  SIAM Conference on Imaging Science (Mar 22, 2022)
- *Stable, accurate and efficient deep neural networks for inverse problems with analysis sparse models*
  SFU Operations Research Seminars (Feb 14, 2022)
- *Provably accurate, stable and efficient deep neural networks for compressive imaging*
  International Conference on Computational Harmonic Analysis (Sep 17, 2021)
- *Provably accurate and stable deep neural networks for imaging*
  CAIMS Annual Meeting (Jun 23, 2021)

AWARDS

NSERC Canada Graduate Scholarships Master's May 2021-Apr 2022

Value: $17500, received from NSERC by application

Peter Borwein Memorial Graduate Scholarship Jan-Apr 2022

Value: $1500, received from SFU by nomination

BC Graduate Scholarship Sep 2020-Aug 2021

Value: $15000, received from SFU by nomination

NSERC Undergraduate Student Research Award May-Aug 2017

Value: $4500, received from NSERC by application

VPR Undergraduate Student Research Award May-Aug 2016

Value: $4500, received from SFU by application

RECOGNITION

- AISTATS 2023 top reviewer (top-10% of reviewers) Feb 2023

WORKSHOPS and DEVELOPMENT

PIMS-IFDS-NSF Summer School on Optimal Transport – University of WA Jun 20-Jul 1, 2022

- Workshop and lectures on optimal transport, with numerous researchers presenting their work in the area

PIMS Math to power Industry workshop – University of Calgary Aug 3-27, 2021

- Completed MITACS courses in communication and team building
- Presentation and report on Serious Labs project of developing real-time simulation for hydraulic systems

TEACHING and MENTORSHIP

Teaching assistant – Simon Fraser University

- Continuous Optimization, Algebra Workshop Fall 2022
- Ordinary Differential Equations Summer 2022
- Algebra Workshop, Mathematics of Data Science Spring 2022
- Vector Calculus, Applied Calculus Workshop Spring 2021
- Algebra Workshop Fall 2020
- Applied Calculus Workshop Fall & Spring 2018

MEMBERSHIPS

Canadian Applied and Industrial Mathematics Society (CAIMS) Jan 2021-Dec 2022

Society for Industrial and Applied Mathematics (SIAM) Jan 2021-Dec 2022