Ning Zhang

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Education

BS.c in Physics, Nankai University **Sep 2015 – Jun 2019**
GPA: 90.8/100 Ranking: 3/92 (3/15 in Poling class) *Tianjin, China*
MASc in ECE, University of British Columbia **Sep 2019 – Current**
GPA: 94.4/100 Supervisor: Lele Wang *Vancouver, Canada*

Research Interest

probabilistic combinatorics, information theory, graph theory, spectral methods, statistical learning theory

Research Experience

Graph alignment | *Supervisor: Lele Wang, ECE department, UBC* **Sep 2020 – Current**

- Study the information theoretic limits for perfectly aligning graphs that are correlatedly generated from random graph models, e.g. Erdős–Rényi model, stochastic block model..
- Design polynomial time algorithms for aligning random graph pair and prove the corresponding feasible regime

Biophotonics | *Supervisor: Shuo Tang, ECE department, UBC* **Sep 2019 – Aug 2020**

- Perform wavelength calibration in spectral-domain optical coherence tomography (SD-OCT) system and explore SD-OCT image analysis and enhancement methods

Deep learning | *Supervisor: Xin Chen, Computer Science department, University of Nottingham* **Oct 2018 – Feb 2019**

- Explore medical image segmentation methods using inaccurately annotated labels for training deep convolutional neural networks

Undergraduate research training projects (funded by Poling program) **Oct 2015 – Jun 2018**

He-Ne laser stabilization |*Supervisor: Zhibo Liu, School of Physics, Nankai University* Jun 2017 – Sep 2017

- Jun 2016 – Dec 2016 (*Supervisor: Zhibo Liu* School of Physics, Nankai University): Two-dimensional material
- Mar 2017 – Mar 2018 (School of Physics, Nankai University): Topological photonic lattices
- Jun 2017 – Sep 2017 (School of Physics, Imperial College London): He-Ne laser stablization

Publications

1 Ning Zhang, Weina Wang, and Lele Wang. Attributed graph alignment. *arXiv preprint arXiv:2102.00665*, 2021 [Link]

2 Ning Zhang, Susan Francis, Rayaz A Malik, and Xin Chen. A spatially constrained deep convolutional neural network for nerve fiber segmentation in corneal confocal microscopic images using inaccurate annotations. In *2020 IEEE 17th International Symposium on Biomedical Imaging (ISBI)*, pages 456–460. IEEE, 2020 [Link]

Awards

2021	NASIT Best Poster Award (second prize, 2/50)
2019	Outstanding Graduate in Nankai University (3%)
2016,2018	The Second/First Prize Scholarship for Outstanding Student (6%)
2017	Gong Neng Award (5%)
2015,2016	Poling Scholarship

Teaching

Fall 2021	Tutorial for ELEC321/STAT321 Stochastic Signals and Systems
Spring 2021	Tutorial for ELEC321/STAT321 Stochastic Signals and Systems
Fall 2020	TA for ELEC321/STAT321 Stochastic Signals and Systems
Spring 2020	Lab TA for ELEC291 Electrical Engineering Design Studio I

Technical Skills

Languages: MATLAB, Python, Mathematica
Technologies/Frameworks: Linux