Angela Wang

70 Morningside Dr, 8438 Wien, New York

Email : aw3062@columbia.edu

Mobile : +1 (913)215-4880

Education

University of Chicago — New York

Ph.D. candidate, Computational and Applied Mathematics. — *2021 – 2026*

Columbia University — New York

B.Sc. in Applied Mathematics and Computer Science, GPA 3.73/4.00. — *2017 – 2021*

Experience

Columbia Math REU — Online

Columbia University — *May 2020 - Aug 2020*

- **Publication Title**: Tightness of Bernoulli Line Ensembles
- **URL**: https://arxiv.org/abs/2011.04478
- **Summary**: We examined the asymptotic behavior of Bernoulli Gibbsian line ensembles, and proved a tightness theorem sufficient for the convergence to Airy line ensembles. The result is important for problems in KPZ universality class, a conjectured class of stochastic processes with local interactions related to random growth processes.

Columbia Math REU — New York

Columbia University — *May 2019 - Aug 2019*

- **Publication Title**: Two-Dimensional Time-Reversal-Invariant Topological Insulators via Fredholm Theory
- **Journal**: Mathematical Physics, Analysis and Geometry
- **DOI**: https://doi.org/10.1007/s11040-020-09342-6
- **Summary**: We examined topological insulators from the perspective of quantum mechanics of non-interacting electrons using functional analysis. Applying Fredholm theory, we revisited the bulk topological invariant, defined a new edge invariant, and showed their equivalence via homotopy.

Teaching Assistant — New York

Columbia University — *Jan 2019 - current*

- **Modern Analysis, Honors Math, Partial Differential Equations**: I held review sessions and weekly office hours to help students understand proof-based math. I graded and devised rubrics for the homework.

Software Engineering Intern — Beijing, China

Tencent — *May 2018 - Aug 2018*

- **Summary**: I worked on the Advertisement Distribution Platform, which uses machine learning algorithms to match the supply and demand of online advertisements. My work included collecting and pre-processing data, optimizing the algorithm based on its learning rate, and building terminal tools to generate graphical reports.

Research Project — Singapore

Institute of Materials Research and Engineering — *May 2016 - Jun 2017*

- **Summary**: I modeled the magnetization response of microparticles under varying external field, and automated the collection and pre-processing of data using C. I presented the project at two academic conferences.
- **Award**: Bronze medal in Singapore Science and Engineering Fair.

Projects and Coursework

Graduate Level Courseworks in Math: Analysis and Probability I, Topology, Honors Complex Variables, Numerical Analysis, Intro to Modern Analysis, Intro to Modern Algebra.

Graduate Level Courseworks in Computer Science and Physics: Quantum Computing, Unsupervised Learning, Intro to Quantum Mechanics, Foundations of Blockchain, Machine Learning, Analysis of Algorithms, Intro to Databases.

Extracurricular Activities: Undergraduate Math Society, Photography (personal blog: anyu0.github.io), Columbia Ski Team.

Skills

Programming Languages: Python, C/C++, SQL, C#, Java, Matlab, Mathematica, LaTeX

Technologies: Linux, Comsol Multiphysics, Arduino, Raspberry Pi

Languages: English, Chinese, French