Zhuoyi Chen

631-923-5323 // Zhuoyi.chen@stonybrook.edu // linkedin.com/in/zhuoyi-chen/ // F1 Student(OPT)

EDUCATION

Expected 12/29	**Stony Brook University**	Stony Brook, NY
	M.S. in Applied Mathematics (Expected to Ph.D., passed first Qualifying Exam) (3.78/4.0)	

- *Coursework:* Ordinary Differential Equations, Numerical Analysis, Financial Derivatives

09/22 - 06/23	**Université Toulouse III - Paul Sabatier**	Toulouse, France
	M.S. in Master 2 "Research & Innovation" in Mathematics	

- *Coursework:* Stochastic Calculus, Mathematical Quantum Mechanics, Spectral Theory, Random Matrix, Free Probability, Sensitivity Analysis, Bayesian Interference, Stochastic Algorithm.
- *Honors:* EUR-MINT M2 Master Scholarship

09/17 - 09/21	**University of California, Davis**	Davis, CA
	B.S. in Mathematics (Major GPA: 3.88/4.0)	

- *Coursework:* Exhausted Undergraduate courses, Graduate Analysis (Function Analysis, Harmonic Analysis), Measure Theory, Combinatorial Optimization, Mathematical Machine Learning.
- *Honors:* Robert Lewis Wasser Memorial Scholarship, 2018-2019: Dean's List

PROJECTS

09/19 - 06/20	**University of California, Davis**	Davis, CA
	Undergraduate Research (Python)	

- Studying and testing 3D Image segmentation of Microglia cells via combinatorial algorithm like HNCcorr, Neural Networks like Cellpose, and other Topological Data Analysis Methods

01/20 - 07/20	**University of California, Davis**	Davis, CA
	Undergraduate Research (Matlab)	

- Construct an environment of viscoelastic fluid, create a Matlab model of the Purcell three-link swimmer, and use different optimization algorithm schemes to find various solutions.

01/21 - 05/21	**University of California, Davis**	Davis, CA
	Undergraduate Research (Pure Mathematics)	

- Studying the purification of Quantum Trajectories in infinite dimension.

05/21 - 01/22	**Using.AI (AI Start-up)**	Shenzhen, China
	AI Algorithm Research Intern (Tensorflow, Pytorch)	

- Use Resnet and other related neural networks to classify a short-sighted image dataset.
- Use reinforcement learning to build a Generative Adversarial Network to synthesize stock price data with a Multi-Agent Simulator counterpart, acting as people acting in the stock market.
- Investigate random graph theory under the concept of Bitcoin transactions.

01/22 - 07/22	**Lab of Mesoscale Connectome Mapping, Shenzhen Institutes of Advanced Technology**	Shenzhen, China
	Optimization Algorithm Researcher Intern (Python)	

- To investigate and test different algorithms in image stitching and the image processing areas like SIFT, FFT-based algorithms, Global Morphing optimization, Neural networks, and ideas proposed by the supervisor.

03/23 - 06/22	**Université Toulouse III - Paul Sabatier**	Toulouse, France
	Graduate Research (Pure Mathematics)	

- Study the Adiabatic Theorem in Quantum Mechanics and apply it for Markov Processes.

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python (pandas, OpenCV, numpy, scipy, scikit-learn, Tensorflow), C++(OpenMP), MATLAB, Linux, Git

Activities: Day trading in Chinese Stock Market since Undergraduate.