TONG WU

|+86 15220849920 | wutong29@mail2.sysu.edu.cn |

Education

Sun Yat-Sen University Guangzhou, Guangdong

Mathematics and Applied Mathematics;GPA 4.28 Rank 5/137 (Core GPA 4.49 Rank 2/137) *2018.9 –Now*

- 2018-2019 Sun Yat-sen University First-class Scholarship; **2018 National Scholarship (2%)**
- Core courses: Mathematical Analysis, Geometry and Algebra, Numerical Analysis, probability, Mathematical Statistics, Fourier Analysis, Partial Differential Equations, Matlab, Matrix Analysis, Stochastic Processes, Functional Analysis, Real Analysis, Complex Analysis etc.

Research Experience

Registration and 3D reconstruction of serial tissue sections

Research Assistant. Advisor: Prof.Jia Li, In cooperation with Sun Yat-sen University Cancer Center *2021-now*

- Read related literature and books, summarized the classic framework of image registration problems
- Used Powell to search the optimal parameters for affine transformation, and achieved good primary results

Term projects in Matlab course

Including optimization, digital and image processing *2021*

- Recognize music by recording: Implemented a simple version of the Shazam algorithm. Got the spectrograms of songs through a short-time Fourier transform. Remained points with high energy in spectrograms and constructed stable features for songs. And matched successfully using the features
- Used the Alternating Direction Method of Multipliers (ADMM) to solve linear inverse problem
- Implemented PDE-based anisotropic diffusion to do image impainting and denoising

Duxing Studio R&D Department

Academic Society in School of Mathematics. Deputy Minister *2018-2019*

- Organized to learn web knowledge and web crawlers. Crawled data from Douban and displayed them
- Machine Learning Seminar: Organized to study Berkeley open class CS188: Introduction to AI, which includes introductory knowledge about artificial intelligence like reinforcement learning, neural network, etc. Completed the course projects (Writing an AI to play Pac-Man games automatically in Python)

Awards

National Second Prize in Contemporary Undergraduate Mathematical Contest in Modeling(%5)

The result of teamwork: "Solution to the game of Crossing the Desert Based on Markov Decision Model and Game Theory"

- Used Python to call the Cplex optimization solver to solve the linear programming model, and found the player's best strategy under different settings (maps, weather conditions, etc.)

First Prize in The Chinese Mathematics Competitions(CMC)-2020

First Prize in the National Olympiad in Informatics in Provinces(NOIP)-2017

Skills & Interests

Skills: Matlab,C++,Python(Pandas, Matplotlib, Cplex, Pytorch, Scipy, etc), Latex

English: IELTS 7(reading 9)

Interest: Drawing(especially lovely animals like penguins), Basketball (the first place in the women's basketball competition in School of Mathematics), Volleyball, Reading, Travel(visited the students in poor mountainous area of Wangmo County, Guizhou Province in summer vacation, and helped to contact the social funders for the students.)