

Ziyang Yu

📍 Waterloo, ON, Canada

✉ z333yu@uwaterloo.ca

☎ [+86-150-7949-8710](tel:+86-150-7949-8710)

🌐 <https://github.com/Ziyang-Yu>

Education Background

Southern University of Science and Technology (SUSTech)

Major: *Mathematics and Applied Mathematics (Honor Class)*

Guangdong, China

Aug. 2019-Jun. 2023

Awarded Excellent Graduate Student

Overall GPA: 3.75/4.00

University of Waterloo

Major: *System Design Engineering*

Ontario, Canada

Incoming Student (Fall 2023)

Courseworks

Selected Mathematics Courses: Advanced Linear Algebra II(H), Abstract Algebra(H), Topology, Complex Analysis(H), Scientific Computing, Partial Differential Equations(H), Algorithms for Convex Optimization, Applied Stochastic Process, Functional Analysis.

Selected Computer Science Courses: Data Structure and Algorithm Analysis B, Deep Learning.

(Notation "H" means Honors Class)

Math Seminars

Fourier Analysis Seminar

Advised by Bochen Liu

SUSTech

Jun. 2021-Aug. 2021

- Learned about fourier analysis and its applications in partial differential equations.
- Gave a talk on the topic *Fourier Transform* in the seminar.

Optimization Seminar

Advised by Jin Zhang

SUSTech

Apr. 2022-Jun. 2022

- Learned about variational analysis and its applications in optimization.
- Gave a talk on the topic *Semi-smooth Newton Method* in the seminar.

Measure Theory Seminar

Advised by Bochen Liu

SUSTech

Jun. 2022- Jul. 2022

- Learned about abstract measure, including Hausdorff measure.
- Gave a talk on the topic *Abstract Measure and Self-similarity* in the seminar.

Projects

DrugGPT Backend Development

Advised by [Huiyu Cai](#) & [Jian Tang](#)

Biogeometry

Apr. 2023-Jun. 2023

- Designed and implemented 3-layer architecture - APIs (Flask), database operations (SQLAlchemy, Caching), database initialization (MySQL, Redis).
- Provide real-time communications between backend and frontend using SocketIO.
- Test and Measure the performance of backend using pytest.
- Deploy backend to remote server using cloudam service.

Publications

- **Staleness-Alleviated Distributed Graph Neural Network Training via Online Dynamic-Embedding Prediction**
Guangji Bai*, **Ziyang Yu***, Zheng Chai, Yue Cheng, Liang Zhao.
Under review.

Skills

- **Computer Languages:** C/C++, Python, Assembly Language, Java, JavaScript, Bash, Matlab.
- **Machine Learning Libraries:** NumPy, Sci-kit Learn, HanLP, Pandas, Matplotlib, Pytorch, Pytorch Geometric.
- **Backend Libraries:** Flask, Flask-Limiter, Flask-SQLAlchemy, Flask-SocketIO, Flask-APScheduler.
- **Mathematics:** Algebra, Analysis, Geometry, Topology, Numerical Analysis, Optimization, Probability, Stochastic.
- **English:** CET-4, CET-6, TOEFL(100), IELTS(7).

Awards & Achievements

- Freshmen Scholarship of SUSTech
- 2020 Second-class Outstanding Student Scholarship
- 2020 Third prize in Mathematics competition of Chinese College Students
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