CHEN, Zijun

✉ zchendg@connect.ust.hk | ☎ +852 5625 8219

EDUCATION

Hong Kong University of Science and Technology   Hong Kong
B.S. in Mathematics of Pure Math (Advanced) track and Computer Science   *Sept 2018 – Jun 2022(expected)*

- CGA: 3.95/4.3; MATH average: 4.12/4.3; Ranking: Within top 5/158 (3%)
- Relevant coursework: Honors Calculus(A+), Honor Analysis(A) & Real Analysis(A), Honors Linear Algebra(A) & Abstract Algebra(A), Honors Probability(A+), Combinatorial Analysis(A+), Differential Manifold(A), Numerical Analysis(A+), Computational Geometry(A+), Java(A), C++, etc

---

ACADEMIC RESEARCH EXPERIENCE

Integer Programming Problems with Graph Neural Networks   Department of CSE
supervised by Prof Qifeng CHEN through Final Year Project   *Jun 2021 - Jun 2022(expected)*

- Combine GNN and deep-learning technique on graph-structured data to handle integer linear programming problems

Approximate Message Passing Algorithm   Department of Mathematics
supervised by Prof Zhigang Bao through Independent Study Work   *Feb 2021 - Step 2021*

- Learnt traditional AMP theory with respect to universality under sub-Gaussian tail condition
- Complete review article reports that rephrases the universality theory's proof and research tools

Survey Analysis with Statistical Machine Learning and GCN   Department of CSE
self-lead project in COMP 5212-Machine Learning   *Feb 2021 - May 2021*

- Using statistical machine learning method and GCN analysis Chinese Political Compass dataset with respondents' attitudes in political, economic and social in agreement originally from UK
- Developed GCN model that predict the survey questions to help examine reliability and filter outliers

Differential Geometry   Department of Mathematics
supervised by Prof Frederick Fong through UROP 1000, 1100, 2100, 3100   *Jun 2019 - Dec 2020*

- Learnt mathematical research tools and framework in differential geometry field
- Wrote periodic reports based on Hamilton's research work on manifolds with positive Ricci Curvature using maximum principle and discussed definition and application of Pinched Isotropic Curvature in manifolds with $\frac{1}{4}$-pinched curvature

---

AWARDS

Epsilon Fund Award   Department of Mathematics
awarded by HKUST Department of Mathematics for 2 to 3 people per year   *May 2020*

- The 15th Epsilon Fund Award: awarded by Department of Mathematics

Chern Class Awards   Department of Mathematics
awarded by HKUST Department of Mathematics for excellent performance   *Step 2019 - present*

- Chern Class Scholarship and Award: Chern Class Scholarship on admission; Chern Class Talent Scholarships on satisfactory academic progress; Chern Class Achievement Scholarship

University Awards   HKUST
awarded by HKUST   *Sept 2018 - present*

- Dean's List: 2018-2019 Fall; 2019-2020 Fall; 2019-2020 Spring; 2020-2021 Fall; 2020-2021 Spring
- University's Scholarship Scheme for Continuing Undergraduate Students: Year 1; Year 2; Year 3
- 2022 HKUST Academic Achievement Medal (expected; 30-50 people per year)

RESEARCH SKILLS

Computer Skills

- Programming languages: C++; JavaScript; Python; LaTeX
- Concepts and frameworks: Machine Learning, Computational Geometry, Pytorch, TenserFlow

Mathematical Skills

- Concepts and tools: Approximate Message Passing, Differential Geometry, PDE research tools
- Core skills: Analysis, Linear Algebra, Probability, Combinatorial Analysis, Statistics