HAOXUAN (STEVE) CHEN

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EDUCATION

California Institute of Technology *October 2018 - Present*
Senior Undergraduate (Information and Data Sciences & Mathematics) Overall GPA: 4.3/4.3

No.2 High School of East China Normal University *September 2015 - June 2018*
High school diploma Overall GPA: 3.89/4.12

TECHNICAL STRENGTHS AND TEST SCORES

Computer Languages	Python, MATLAB, Mathematica, Java, C/C++ (still learning)
Software & Tools	Proficency in LaTeX, Microsoft Word, Excel, PowerPoint
Languages	Mandarin Chinese, English, and Spanish (elementary level)
American College Test (ACT)	Composite score: 35/36
TOEFL Test	Composite score: 110/120

RELEVANT COURSES

Courses taken in 2019-20
ACM 104 (Applied Linear Algebra)
ACM/CMS/IDS 107 (Linear Analysis with Applications)
Math 108abc (Classical Analysis)
Math/IDS 140 (Probability)
CS/CNS/EE 156 (Learning Systems)
CMS/CS/IDS 155 (Machine Learning & Data Mining)
CS 38 (Algorithms)
EE/CNS/CS 148 (Topics in Computer Vision)

Courses taken in 2020-21
ACM/EE 106 (Methods of Computational Math)
ACM/CMS/IDS 113 (Mathematical Optimization)
Math 109abc (Introduction to Geometry & Topology)
Math 117 (Computability Theory)
CS/ACM/IDS 157 (Statistical Inference)
CS/CNS/IDS 165 (Foundations of Machine Learning)
CMS/CS/IDS 139 (Analysis and Design of Algorithms)
CS/CNS/IDS 159 (Advanced Machine Learning)

RESEARCH

CMS Department SURF Fellow, Applied Math Research *April 2020 - September 2020*
Continuous Time Opinion Formation on a Graph

- Mentors: Franca Hoffmann, Bamdad Hoessini (Von Karman Instructors), Andrew M. Stuart (Bren Professor), Department of Computing and Mathematical Sciences, California Institute of Technology, Pasadena, California
- Studied unsupervised and semi-supervised learning algorithms and spectral graph clustering. Applied these techniques to analyze how people's opinions vary under the influence of a communication network

Morgan Ward SURF Fellow, Math Research (Number Theory) *June 2019 - August 2019*
Properties of Quaternionic Automorphic Forms

- Mentor: Zavosh Amir-Khosravi (Olga Taussky John Todd Instructor), Department of Mathematics, California Institute of Technology, Pasadena, California
- Developed an analogue of automorphic forms for quaternions. Explored a concept called "n-Regularity", which corresponds to holomorphicity in the classical case

Primary author, Math Research (Number Theory) *July 2017 - July 2018*
On the Upper Bound of Minimal Prime Quadratic Residue

- Mentor: Zhengyu (Eric) Xiang, Department of Mathematics, Fudan University, Shanghai, China

· Proved an upper bound of the minimum prime quadratic residue modulo a given prime number with some hypothesis

ACADEMIC EXPERIENCES

Teaching Assistant, ACM 104 (Applied Linear Algebra) *October 2020 - December 2020*
California Institute of Technology, Pasadena, California

· Graded problem sets. Held weekly office hours

Teaching Assistant, ACM 11 (Introduction to MATLAB and Mathematica) *April 2020 - June 2020*
California Institute of Technology, Pasadena, California

· Designed and graded projects. Wrote solution sets. Held weekly office hours

Teaching Assistant, Math 2 (Differential Equations) *October 2019 - December 2019*
California Institute of Technology, Pasadena, California

· Graded problem sets. Wrote TA notes and solution sets. Held weekly office hours

Junior Counselor, Ross Mathematics Program *June 2018 - July 2018*
Ohio State University, Columbus, Ohio

· Returned to the highly selective math summer program as a teaching assistant
· Attended daily lectures, seminars,(all on elementary number theory), two advanced lectures (Convex sets and Sums of Squares) and dorm lectures (including various topics like analysis, algebra and topology)
· Graded first-year students' solutions to the problem sets and gave them feedback

First-year student, Ross Mathematics Program *June 2017 - July 2017*
Ohio State University, Columbus, Ohio

· Enrolled in the highly selective math summer program for six weeks
· Attended daily lectures, seminars,(all on elementary number theory) and two advanced lectures (Cantor Set and Elliptic Curves)
· Solved problem sets, exchanged ideas with professors, counselors, and peers

HONORS AND AWARDS

114th in Overall Ranking Sophomore
William Lowell Putnam Mathematical Competition 2019 *Pasadena, California*

· Level of Recognition: International

120th in Overall Ranking Freshman
William Lowell Putnam Mathematical Competition 2018 *Pasadena, California*

· Level of Recognition: International

20th in Overall Individual Round, 1st in Overall Team Round Grade 11
Harvard-MIT Math Tournament (HMMT) *Cambridge, Massachusetts*

· Level of Recognition: International

7th in Overall Individual Round, 7th in Overall Team Round Grade 11
Division A, Princeton University Mathematics Competition (PUMaC) *Princeton, New Jersey*

· Level of Recognition: International

Gold Medal, 1st Place in Overall Team Ranking Grade 11
China Southeast Mathematical Olympiad (CSMO) *Nanchang, Jiangxi, China*

· Level of Recognition: National

13 out of 15 points, USAMO Qualifier Grade 10
American Invitational Mathematics Exam (AIME 2) *Shanghai, China*

· Level of Recognition: International