Guantao(Chris) Zhao

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EDUCATION

The George Washington University, Washington, D.C. (08/2018- 05/2020)

- Master of Science in Computer Science, GPA: 3.86

Rutgers University-New Brunswick, NJ (09/2015 - 05/2018)

- Bachelor of Arts in Computer Science & Bachelor of Science in Mathematics

Drexel University, Philadelphia, PA (09/2013 - 06/2015)

- Bachelor of Science in Mathematics

PUBLICATON

- **G. T. Zhao,** Y. N. Sun, Z. Q. Zhu and A. Arora., **Matching Algorithms in Ride Hailing Platforms.** SAI Future Technologies Conference 2020 (FTC 2020), Volume 2 pp 847-861.
- **G. T. Zhao,** Z. Q. Zhu, Y. N. Sun and A. Arora., **Pairwise Cosine Similarity of Emission Probability Matrix as an Indicator of Prediction Accuracy of Viterbi Algorithm**. ICAART 2021.

RESEARCH EXPERIENCE

The I-Corps Site Programs, National Science Foundation (NSF), The George Washington University
Advisor: Dave McCarthy (11/2020 – Now)

- **Team Leader**: Will apply the research result of the paper of **Matching Algorithms in Ride Hailing Platforms** to practice, plan to interview 20 customers, and complete the experience summary of customer segmentation, customer value and the overall process.

Correlation of Emission Probability vs. Prediction Accuracy of MLE, The George Washington University
Advisor: Amrinder Arora (06/2020 – Now)

- **Research Assistant & Team Leader**: Led two team members to complete this project and worked as the first author to publish a paper; Implemented Hidden Markov model and Viterbi algorithm; Verified the prediction accuracy of Viterbi algorithm is governed by the arithmetic mean of the cosines of the emission probabilities.

Matching Algorithms in Ride Hailing Platforms, The George Washington University
Advisor: Amrinder Arora (10/2019-06/2020)

- **Research Assistant & Team Leader**: Explored the complexity in defining a meaningful objective itself, and proposed a family of routing, automatic driving and ride-sharing algorithms; Approached the problem of routing the cars to the passengers in an optimal fashion from the perspective of the ride sharing operator; Led two team members to complete this project and worked as the first author to publish a paper.

Dynamic License Plate Recognition, Harbin Institute of Technology, Advisor: Dansong Cheng (05/2019-09/2019)

- **Research Assistant**: Used the CNN to regress the left and right borders of the license plate; Extracted characters by making use of the CNN sliding window and identified characters with CNN; Reported the illegal vehicle's location to the police department through recognizing the license plate of the cars around it when the vehicle is moving.

Directed Program Undergraduate Research, Rutgers Math Department, New Brunswick, NJ
Advisor: Jinyong Park (09/2017 -01/2018)

Project: Research of the Use of Graph Theory in Car-sharing Software (Uber, DiDi, Lyft)

- **Student Researcher**: Learned the Graph Theory independently and mastered the relevant algorithm, LaTex and Matlab; Made the presentation in the conference of Directed Program Undergraduate Research in Rutgers and won 2018 Excellent Student Research Project; successfully shortened the waiting time of passenger and increased the order receiving rates of drivers.

TEACHING ASSISTANT EXPERIENCE - On Campus

TA & Grader, The George Washington University, Washington, D.C. (08/2019-05/2020)

- Focused on Computer Science Course CS4455 of Master program.
- Helped over 100 students with test preparation and assignments.

Math Tutor, Drexel University, Philadelphia, PA (09/2014-05/2015)

- Helped students with test preparation and homework assignments in *Algebra, Calculus, Trigonometry and Statistics*.

Math Tutor Volunteer, Old Pine Community Center, Philadelphia, PA (01/2014-06/2014)

- Taught high school students at a community center focusing on Algebra, SAT test preparation, and Geometry.

WORK EXPERIENCE

BrainCo, Boston, MA (08/2020-Now)

- **Software Engineer & Researcher, Full time:** Involving in the development of a robotic arm that combines electromyography and machine learning to help disabled people use the prosthetics that we have designed; Focused on robot's gyroscope data processing work by PyQT GUI; C++ codebase maintenance work for mainstream products.

Blue Otter, The Mountain View, CA (06/2017-09/2017)

- **Software Tester, Intern:** Focused on testing the backend of a behavioral analytic data science tool; Developed Python automated test cases testing database resilience, SQL queries and targeted deletes, and frontend use cases.

Tsinghua Tongfang Co., Ltd., Beijing, China (06/2016-09/2016)

- **Web Programmer, Intern:** Designed the web of the new product based on HTML, CSS and Javascript; Completed web maintenance.

AWARD & HONOR

- **2020 Graduate Merit Awards & $4000 Tuition Fellowship**- The George Washington University
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- **2019 The George Washington University's Golden Key International Honour Society Member**
- **2018 Excellent Research Project**-Directed Program Undergraduate Research
- **2017 Dean's List** in Art and Science Department- Rutgers University
- **2015 Dean's List** in Art and Science Department- Drexel University
- **2013 Recipient of $10,000 per year** academically based scholarship for two consecutive years-Drexel University

SKILL & LANGUAGE

- Java, WebGL, Python, C++, C, GO
- MATLAB, LaTex, HTML5
- SQL, Assembly, CSS, Javascript
- MS Office (Word, PowerPoint, Excel)
- Chinese(fluent), English (fluent), Japanese(basic)