Yuan Chang

CONTACT INFORMATION

1659 Drew cir
Davis, CA 95618

(530) 760-6690
merchang@ucdavis.edu

EDUCATION

University of California, Davis, CA

B.S. Computer Science, Sept 2018 - Jun 2022

- Minor in Mathematics.
- UC GPA: 3.903, **Major GPA: 3.950**.
- Provost Award 2018.
- Dean's honors list of Winter and Fall of 2019, Winter of 2020, Spring of 2021.

PROGRAMMING LANGUAGES AND SKILLS

Proficient: C/C++, Python, LaTeX, Maple, R, Unix, Bash script
Familiar/Beginner: Rust, Java, MATLAB, Mathematica, RISC-V Assembly
Languages: Chinese(Native), English(Fluent), French(Beginner)

INTERNSHIP & EXPERIENCE

UC Davis Applied Mathematics Summer Research
Research student — Summer 2021 - present

- Study both theoretical Ramsey Theory and computational methods.
- Modify and write scripts to aid computation.
- Using Boolean algebra(SAT) to significantly reduce the cost of computation.
- Research under the supervision of Prof. Jesús De Loera and Jack Wesley.

International Family Union
Teaching Associate — Summer 2020 - 2021

- Teaching in Computer Science.
- Design and taught areas such as Unix, C++, algorithms and data structures.
- Introduce advanced topics such as dynamic memory management and recursion.

Davis Senior High School
Teacher's Assistance — Fall 2019

- Teach along with Mr.Harvey in his robotics class.
- Help program autonomous and remote controlled robots in C/C++ language.
- Clerical tasks such as taking attendance and grading course works.

PERSONAL PROJECTS & RESEARCH PAPERS

Computations with Rado numbers and degree of regularity (2021)

- Advancements in terms of Rado Numbers and degree of regularity.
- Research publication and will be submitted to ACM conference in the beginning of 2022.
- Co-author with Professor Jesús De Loera and William Wesley.

Swift Development (2021)

- Initial attempt at making a mobile application using Swift.
- TicTacToe game using the core ideas of swift - MVVM, Core data, optionals.
- Following the guidance of Apple's application policies.

Robotic Arm Project (2020)

- Study of a specialized two segments robotic arm with computational algebra.
- Analysis of many real life robotic arm problems such as kinematics singularity and reversed kinematics problems.

RSA Encryption and Modular Arithmetic (2019)

- Insight look into RSA encryption through the lens of computer science and mathematics

Relevant Coursework

MAT 165A - Computational Algebra, Groenber Basis, Applied abstract algebra
MAT 145 - Combinatorics, Graph Theory, Optimization
MAT 168 - Linear optimization and linear programming
MAT 115A - Number theory, application to cryptography
ECS 150 - Multi-threaded programming, System programming
ECS 122A - Advanced algorithm analysis, Graph algorithms, Dynamic programming
ECS 154A/B - Computer Architecture, Parallel architecture, Memory architecture
ECS 140A - Programming language concepts