Yuan Chang

CONTACT INFORMATION & WEBSITES

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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 AND SPOKEN LANGUAGES

Proficient: C/C++, Python, LaTeX, Maple, R, Unix, Bash script
Familiar/Beginner: Rust, Clisp, Prolog, Java, MATLAB, Mathematica, RISC-V
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 William 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 geometric 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
- Comparative study with Diffie-Hellman keyexchange and Knapsack encryption methods
- Utilized modular arithmetic and divisibility to leverage security

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
MAT 108	–	Abstract Mathematics, Proof techniques, research project
ECS 150	–	Multi-threaded programming, System programming
ECS 122A	–	Advanced algorithm analysis, Graph algorithms, Dynamic programming
ECS 120	–	Complexity Theory, Computability
ECS 154A/B	–	Computer Architecture, Parallel architecture, Memory architecture
ECS 140A	–	Programming language concepts
ECN 122A	–	Game Theory, Ordinal, Static and Cooperative games
PHI 112	–	First Order logic, logical deduction, metalogic