Yuan Chang

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Education

University of California, Davis, CA

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

- Minor in Mathematics.
- UC GPA: 3.90, **Major GPA: 3.950**.
- Dean's honors list of Winter and Fall of 2019, Winter of 2020.

Programming Languages and skills

Proficient: C/C++, Python, LaTeX, Maple, R, Unix
Familiar/Beginner: MIPS Assembly, Java, MATLAB, Mathematica, RISC-V Assembly, Scala
Experienced: Object Oriented Programming, Team Programming
Languages: Chinese(Native), English(Fluent), French(Beginner)

Relevant Coursework

MAT 165A - Computational Algebra, Groenber Basis, Applied abstract algebra
MAT 145 - Combinatorics, Graph Theory, Optimization
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

Education & Experience

Davis Senior High School
Teacher's Assistance — Fall 2019

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

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 data structures with memory management and recursion in C++.

Research Papers and Projects

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.
- Calculations made using Maple.
- Highlights the integration of computer and mathematics.

RSA Encryption and Modular Arithmetic (2019)

- Insight look into RSA encryption through the lens of computer science and mathematics
- Provided several detailed mathematical proof for the theorems such as the Fundamental Theorem of Arithmetic and Euler's Phi function.

Empirical Analysis of Sorting Algorithms (2018)

- My own implementation of Bubble, Insertion, Merge and Quick sort in Java.
- Analysis of the time and space complexity of above algorithms, along with numerical data from simulations.
- Wrote in High school, served as an first attempt to write research paper.