Derek Ma

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EDUCATION

University of California, San Diego — B.S. Computer Science   Expected May 2024
- 3.84 GPA
- Provost Honors

RELEVANT COURSES

Object Oriented Programming, Systems Programming, Computer Architecture, Data Structures, Computer Vision, Software Development, Algorithms and Systems, Discrete Mathematics, Theory of Computation, Calculus III, Proof-based Linear Algebra

EXPERIENCE

Kneron, San Diego, CA — AI Hardware & Software Company   **July 2022–September 2022**
Software Engineer Intern
- Worked with the database & data warehouse in GitLab and compiled summary statistics on delta tables using PySpark SQL
- Converted Raw JSON data from large image databases such as MongoDB, COCO, and BDD100K into structured Bronze, Silver, and Gold Delta Tables using a combination of Python, Apache Spark, Databrick APIs, and other machine learning processes
- Extracted image data from large datasets of up to 5 million raw image files using OpenCV into databases for CI/CD pipelines

BackflowFast.com, San Diego, CA — Backflow Testing Company   **July 2022–Present**
- Built a prototype scheduling web application with Node.js framework that allowed users to schedule backflow tests online in under 5 minutes
- Integrated Stripe API to manage payment (visit backflowfast.herokuapp.com for prototype app)
- Hosted the final website under the domain name "backflowfast.com" using AWS Route 53 and CNAME records

PROJECTS

Encrypter   **June 2022**
- Created an encryption/decryption program in Assembly that used book cipher and bit manipulation to both encrypt and/or decrypt text files

C Hash Table Database   **May 2022**
- Implemented a simulation of the New York City parking ticket database in C

Flappy Bird Game Recreation   **May 2021–June 2021**
- Recreated the popular mobile game Flappy Bird in Java in a group of 4 people
- Updated scores and wrote highscores to text files using Java FileWriter and FileReader packages

HONORS & AWARDS

9th Place WIC Programming Competition Spring 2022   **May 2022**
- Placed 9th out of 90 teams as a *solo contestant* in the quarterly WIC @ UCSD competition

5th Place WIC Programming Competition Winter 2022   **March 2022**
- Placed 5th out of 63 teams in the quarterly WIC @ UCSD competition

SKILLS & LANGUAGES

Languages: Python, C, Java, JavaScript, Aarch32 ARM Assembly, HTML, CSS, JSON

Technologies: Git, Apache Spark, Databricks, MongoDB, Conda, OpenCV, Linux, AWS