Andy Chen

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Education

University of California, Berkeley Expected May 2025

Bachelor's Degree in Computer Science & Data Science *3.92/4.0*

- Relevant Coursework: Data Structures, Efficient Algorithms, Artificial Intelligence, Machine Learning, Computer Vision, Database Systems, Computer Architecture, Mobile & Web App Development, Principles of Data Science, Discrete Math & Probability Theory, Linear Algebra & Differential Equations, Technical Engineering Design

Thomas Jefferson High School for Science and Technology (TJHSST) Aug 2017 - Jun 2021

Jefferson Diploma *4.0/4.0*

Work Experience

IBM May 2023 – Aug 2023

Software Engineering Intern *New York, NY*

- Implemented smart captioning with generative AI for Soul Machine, an AI customer support system, by linking voice output with mouth movements, and captions to bring a smoother customer service experience than chatbots
- Configured Dockerfiles and .yaml files to containerize applications, and deploy instances onto Red Hat OpenShift
- Automated cloud testing environment by leveraging UNIX shell scripts to host the front-end Soul Machine instance while linking the back-end IBM Watson Assistant, deployed on the OpenShift cloud. Reduced response time by 10x

Atlassian Sep 2022 – Dec 2022

Contract Software Engineer *San Francisco, CA*

- Developed Compass, a full-stack developer feedback system, to organize issue tickets in a feed with REST API calls
- Designed an automated process to group similar issues with 92% accuracy through an OAuth 2.0 authenticated micro-service to call a clustering NLP algorithm, similar to StackOverflow's related questions feature
- Handled various REST API calls in a Forge web application, interacting with a Jira Kanban board to update issues

IBM May 2022 – Aug 2022

Software Engineering Intern *Washington, D.C.*

- Designed an API to ping status of network switches in server room, and built an integrated Slackbot to constantly query downtime and alert network team, increasing the overall efficiency of tasks by notifying team immediately
- Configured resources for client projects on IBM Z mainframes, pushed Docker images onto cloud environments
- Increased efficiency by 80% by streamlining back-office data entry with Robotic Process Automation (RPA)

George Mason University Jun 2020 – Nov 2020

ML/AI Research Intern *Fairfax, VA*

- Constructed a novel foot-traffic AI agent model with Latent Dirichlet Allocation to simulate local COVID-19 spread
- Studied simulated effects of intervention policy, tested changes to parameters and their impact on public health
- Co-authored a 15+ citation published research paper, presented at international research workshop ACM SIGSPATIAL ARIC 2020, *Data-driven Mobility Models for COVID-19 Simulation*

Projects

Insta Sudoku | *Python, OpenCV, OCR, React, MongoDB* Dec 2022 – Feb 2023

- Created a user-friendly web interface allowing users to upload images of Sudoku puzzles and receive the solved puzzle in real-time, tested on NYTimes hard-difficulty daily puzzles
- Implemented thresholding, contour detection, and perspective transformation CV techniques to extract Sudoku grid from input images, used OCR techniques to accurately recognize and extract digits with 90% accuracy
- Optimized performance of Sudoku solver with algorithmic optimization techniques, solving puzzle in $<$5 seconds

LED Gameboard | *C++, Arduino, HTML/CSS, Javascript* Feb 2022 – April 2022

- Coded Snake, Tic-Tac-Toe, Connect4, and Battleship for custom LED gameboard, support for Player v. AI or 2-Player
- Developed project website, implementing image carousels and hover animations in JavaScript
- Utilized minimax algorithm with alpha-beta pruning for AI implementation in all 2-Player games

Technical Skills

Languages: Python, Java, C, C++, HTML/CSS, Javascript, PHP, SQL, Julia, GraphQL, LaTeX, Regex
Frameworks: Node.js, React/React Native, Typescript, Flask, Django, Firebase, MongoDB, REST API
Developer Tools: Git, Linux/UNIX, RedHat Openshift, Docker, Kubernetes, Agile, Unit Testing, VS Code, Android Studio
Libraries: NumPy, Pandas, Matplotlib, OpenCV, Scikit-Learn, PyTorch, TensorFlow, Tkinter