

Mandy CHEN .art CV

picaq.github.io [portfolio](#) [site](#)

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Summary

Software engineer and illustrator who enjoys creating delightful interactivity and learning to use new technologies. Simultaneously has a penchant for carefully hand-made materials and details. Writes scripts to ease and automate the design and development process. Always creating with the end-user in mind. Uses web code as a flexible, dynamic tool to create art and illustrations and effortlessly share them with the world.

Enchanted with the intersection of science, tech, and the arts.

Deeply interested in Civic Tech, Environmental Tech, and Healthcare, Biotech and EdTech.

Experience

Digital Dreamers STEAM Academy

San Francisco, California, United States

STEM Instructor, Lafayette Elementary School—Contract

Feb 2026 – May 2026

- Instructed K-5 STEM/CS curriculum using platforms like Code.org, Scratch, ScratchJr, and robotics (LEGO Spike Prime, Sphero, Makey Makey), translating complex computational and logical thinking and problem solving into engaging age-appropriate, hands-on learning modules and environments that fostered creativity and program solving skills.
- Automated classroom management tasks with custom JavaScript bookmarklets, optimizing instructional time and streamlining daily operations to maximize individualized attention.
- Troubleshooted technical hardware and software issues across various platforms and devices, including iPad UX, Bluetooth and wired connectivity for robotics and Chromebooks, maintaining equipment readiness for high-energy classroom sessions.
- Designed and implemented consistent, intuitive visual organizational systems, including device-tracking protocols, equipment documentation, customized seating charts and call & response chants, which significantly reduced classroom disruptions and improved student focus during instructional presentations and technical activities.
- Facilitated digital citizenship presentation workshops and provided individualized technical mentorship to diverse students, including hard-of-hearing and hypersensitive students, fostering an inclusive environment and ensuring equitable access to STEM and digital education.
- Rapidly ascended from substitute teacher to lead instructor within one month while assisting in and then leading the onboarding and training of two new instructors.

Techtonica

Software Engineer—Contract

Sept 2025 – Nov 2025

- Enhanced a full-stack responsive React & PostgreSQL application to include admin login, end-to-end data submission and persistence, data sorting and a CSV download feature.
- Connected with technical and non-technical stakeholders to elucidate needs and communicate project progression and requirements to a non-technical client.
- Performed database migrations, set-up email notification service and Auth0 admin access.
- Deployed web app to the render.com production environment with a custom branded domain, reducing the client's monthly web hosting costs by 50%.

Upstart

Software Engineer, Lending Partnerships

Jan 2022 – Feb 2023

San Mateo, California, United States

- Streamlined loan processes by updating models to accommodate multiple loans per borrower; tested and implemented validations for internal form submissions in collaboration with Operations.
- Strengthened system security by applying input validation and output sanitization logic through a custom-written gem (including unit tests), addressing vulnerabilities identified in pen testing. Represented the LP team in organization-wide model deprecation and sanitization efforts.
- Drove the design and implementation of an automated, real-time multi-lender performance dashboard using Highcharts React. Eliminated the ballooning time and resource costs of regularly creating excel charts on powerpoint slides for each additional business partner.
- Transitioned document-related queries and methods from the monolith into a microservice API, optimizing data handling and retrieval across services and ensuring data consistency and accuracy.
- Developed curriculum for Upstart Academy to support Early Career Engineers. Assisted onboarding newly hired engineers of all levels through the staging and deployment process.
- Responded to and rectified outages, production errors, and failed jobs during on-call rotations.

Upstart

Software Engineer Intern, Powered by Upstart

Jul 2021 – Jan 2022

- Led and owned a full-stack React.js and Ruby on Rails form feature development project to allow users to become members of credit unions in compliance with federal CIP regulations.
- Documented new processes and created tooling for engineers to streamline development cycles.
- Collaborated in Rails model deprecation and refactoring effort to enhance system efficiency and to further secure user PII.
- Automated the generation and transmission of fraud reporting data for current and future lending partners via a recurring job, freeing both engineering and compliance effort hours.

Techtonica

Software Engineer in Training, Apprenticeship

Dec 2020 – Jun 2021

- Full-time, hands-on, project-based, collaborative software engineering learning full-stack JavaScript, utilizing React, node.js, and PostgreSQL (PERN stack).
- Ensured the integrity of applications with Jasmine test-driven development.
- Designed and launched a recipe page, programmed a word search game, and PERN stack applications including an endangered animal tracker and address book.

NASA

Aerospace Scholar, NCAS NASA

Sept 2020 – Mar 2021

- Learned and accessed the history of NASA, key missions, and its impact on the public.
- Researched and analyzed in-situ resource utilization capabilities for Lunar missions.
- Planned a Lunar mission to the South Pole in search of water with a diverse team of 12.
- Designed and Created the mission patch and beloved zero-g indicator.

ResEd, Inc.

Designer, Internal Team

Nov 2016 – Jan 2022

- Developed React! The Organic Chemistry Board Game: a compact educational game that accurately teaches the basics of a chemical reaction as building blocks in organic synthesis.
- Interfaced with a small team of chemists & medical students to develop and fine-tune curriculum and game mechanics.
- Iterated and tested multiple versions and prototypes of React! on university students and professors before mass production.
- Designed production-ready print layouts, illustrations, web assets, and marketing collateral.
- Communicated with multiple manufacturers to ensure quality standards, legally required labeling for multiple international markets, and appropriate production file specifications for consistently printed product quality.
- Maintained strong brand presence in all parts of the printed product, digital marketing, and branded presentations and decks for investors, potential business partners, and students.

City and County of San Francisco

Poll Worker Clerk, Department of Elections

Nov 2020, Nov 2024

- Ensured the safety of voters and poll workers by setting up plastic screens, distancing poll booths, and disinfecting surfaces and writing utensils on a scheduled basis.
- Provided advice and guidance to a new poll inspector on her duties and tips for success.
- Offered bilingual Cantonese and English support for voters.
- Provided unbiased translations and explanations of propositions when requested.

Poll Inspector, Department of Elections

Mar 2020

- Ensured the safety of voters by disinfecting voting booths on a regular basis.
- Led a team of new and seasoned clerks by delegating tasks for opening setup, closing, handling voting machines, cleanup, and assisting voters in turn.
- Provided bilingual Cantonese and English support for voters, with knowledge of political terminology to determine voter preferences, ensuring voter integrity.

Emerge Studio

Design Intern, Design Studio Practicum

Jan 2019 – Dec 2019

San Francisco, California, United States

- Interviewed and communicated with clients to elucidate non-profit client needs and requirements in a collaborative studio setting.
- Designed 7 posters, 3 logos, and 3 other marketing collateral for non-profit clients.
- Supported web designers and resolved theme technical issues in WordPress development.

Museum of Vertebrate Zoology

Undergraduate Research Apprentice

Oct 2013 – May 2014

Berkeley, California, United States

- Created scientific illustrations of museum curated specimens for use and display at the museum, including mammal bones, stuffed bird specimens and direct observation of local wildlife, flora and fauna.
- Techniques included: pen & ink (stippling and cross hatching), watercolor and gouache, colored pencil sketching, timed gesture drawing, blind contour, developing representational drawing and observation skills, and maintaining a field sketchbook.

Department of Integrative Biology, UC Berkeley

Undergraduate Student Instructor

Aug 2011 – Dec 2011

Berkeley, California, United States

- Assisted instruction in two sections of General Biology Lab (Bio1B), proctored short examinations, taught students how to use lab equipment, explained biological concepts and topics and answered student questions.

GATE Institute (Camp Invention)

Camp Counselor

May 2008 – Jun 2008

Tracy, California, United States

- Supervised and facilitated a variety of hands-on engaging interactive science activities and projects to teach incoming 5th graders physics, experimental design, survival simulation and problem solving.
- Projects included building model roller coasters and dissecting electronics.

Education

City College of San Francisco

Certificate of Accomplishment, JavaScript Specialist, 3.5 GPA

Jan 2018 – Dec 2019

- JavaScript Libraries & Frameworks, AJAX, Mobile Web Development
- Git, Bash, PHP7, Search Engine Optimization, Accessibility

Certificate of Achievement, Digital Illustration, 3.58 GPA

Aug 2016 – May 2019

- Graphic Design, Digital Illustration, Figure Drawing, Web Design, Design Studio
- Watercolor, Typography, Adobe Illustrator, InDesign, Photoshop, Color theory, Drawing

University of California, Berkeley

Chemistry (coursework completed towards B.A.)

Jan 2011 – May 2015

- General, Organic, Inorganic, and, Biophysical, Physical Chemistry, Chemical Biology
- Human Anatomy and Physiology & Labs; Japanese, Korean, Music Theory

Research Apprentice, Museum of Vertebrate Zoology

Oct 2013 – May 2014

- Created scientific illustrations of museum curated specimens

Publicity and Finance Officer, CAL Origami

May 2011 – Jan 2013

- Organized finances and submitted budgetary expenses for approval

Undergraduate Student Instructor, Integrative Biology

Aug 2011 – Dec 2011

- Assisted instruction in two sections of General Biology Lab

Merrill F. West High School

High School Diploma

Aug 2006 – May 2010

- Chemistry Honors, AP Physics (Mechanics), AP Biology, AP Calculus BC, French
- Key Club, Orchestra, Winter Guard, Badminton Club, Tennis Team, Science Olympiad: Soil chemistry and Ornithology

Skills & Credentials

freeCodeCamp: JavaScript Algorithms and Data Structures	<i>Jul 2023</i>
Codecademy: Learn Git Course	<i>Dec 2020</i>
AT&T Summer Learning Academy	<i>Jul 2020</i>
Indeed Assessments	
<i>Expert: Graphic Design</i>	<i>May 2020</i>
SEO, Attention to Detail, Problem Solving, Typing, Basic Computer Skills	
<i>Proficient: Analyzing data, Logic & Critical Thinking, Programming</i>	<i>Apr 2020</i>
Lynda.com: Drawing Vector Graphics: Color and Detail	<i>Dec 2017</i>
Languages	
<i>Fluent: English, Cantonese</i>	
<i>Proficient: French, Japanese</i>	
<i>Basic: Mandarin Chinese, Korean, Portuguese</i>	

Honors & Awards

Harry Winter Memorial Scholarship	<i>2017 – 2018</i>
<i>City College of San Francisco Art Department Scholarship</i>	
Big Ideas Berkeley	<i>May 2017</i>
<i>Improving Student Life: 3rd Place</i>	
<i>People's Choice Video Contest Winner</i>	
Rube Goldberg Competition: 2nd place	<i>Apr 2011</i>
<i>Team Name: PCR Squad: Sustainability Rube Goldberg Machine</i>	
Sandia National Laboratories	
<i>Outstanding Achievement in Science</i>	<i>2010</i>
Bank of America Achievement Awards	
<i>In the field of Science</i>	<i>2010</i>