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Denzal Martin

Full-Stack Software Developer

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Full-stack software developer with a recently obtained Master of Science in Physics from Stanford University. Eager to apply programming and problem-solving experience while doing Physics research to developing software applications

EDUCATION

University of California, Berkeley–Extension, Full-stack web development certificate — June 2021 — Sept 2021
Stanford University, Master of Science, Physics GPA: 3.2 — Aug. 2018 — June 2021
University of California, Merced, Bachelor of Science, Physics GPA: 3.6 — Aug. 2014 — May 2018

TECHNICAL SKILLS

Languages JavaScript, HTML, CSS, Python
Tools Git, Sequelize, MySQL, React.js, Node.js, Express.js

FULL-STACK PROJECTS

Space Escape **Sept. 2021**
GitHub repo: https://github.com/pbyakod/space-escape|**Deployed link**: https://space-escape.herokuapp.com/

- Collaborated with 4 other students to create a story based, space themed game
- Developed REST API routes for retrieving a user's previous games from a SQL-based database and responding JSON formatted data
- Created client-side helper functions for fetching database information and sending authorization headers to authenticate users with JSON Web Tokens (JWT)
- Setup server-side utility function for extracting and validating JWTs sent from the client to protect our API routes
- Documented game loop and associated code snippets in Github README to provide context on how the game works
  Technologies used: Sequelize, Express.js, React.js, and Node.js

Event Architect **Aug. 2021**
GitHub repo: https://github.com/dmartin4820/event-architect|**Deployed link** https://stark-crag-36907.herokuapp.com/

- Worked with 2 other students to create an app that allows a members to view public/private events that other members created
- Designed and implemented member, event, event-member, and detail models for database in Sequelize
- Implemented REST API routes using for getting member data from SQL-based database and rendering JSON formatted data on a page
  Technologies used: Handlebars, Node.js, JavaScript, Express.js, Heroku, Git, MySQL, Sequelize, Fetch API

FRONT-END APPLICATIONS

Superlitive **Sept. 2021**
GitHub repo: https://github.com/dmartin4820/superlitive-store|**Deployed link**: https://github.com/dmartin4820/superlitive-store

- Designed and created static site that advertises a women run cannabis site where visitors can purchase merchandise and learn more about the business
- Conditionally use specific JavaScript files based on the current page to ensure only non-existing DOM elements are not accessed
- Styled each page using TailwindCSS to allow for a quick, consistent, and easy mobile-responsive design
- Implemented slideshow logic by creating modular helper functions for looping and showing the next image to display multiple images
- Developed front-end logic for saving user selected merchandise into a cart using the Local Storage API
  Technologies used: PHP, JavaScript, TailwindCSS, Local Storage API

Jam Map **July 2021**
GitHub repo: https://github.com/PDPco/jam-map| **Deployed link**: https://pdpco.github.io/jam-map/

- Worked with 2 other peers to generate a list of music that meets user selected criteria so they can find similar music
- Used JSONP technique to retrieve data from iTunes' API to resolve CORS related error as recommended in iTunes' documentation
- Created functions for displaying fetched data to template cards so the user can see song results
  Technologies used: JavaScript, HTML, CSS, Fetch API

PYTHON BASED DATA ANALYSIS

Stanford University, Prof. Giorgio Gratta Research Group **Mar. 2019 — June 2021**
Research Assistant Stanford, CA

- Worked independently on adapting previous feedback control scheme to dampen a degree of freedom of an optically levitated microsphere while also incorporating suggestions and ideas from 3 post-docs, 2 graduate students, and advisor
- Decreased data processing time by sacrificing space in memory and using Joblib to run functions on 100s of similar datasets in Python
- Designed Python helper functions to process raw signals from photodetector using the **opt_lev_analysis library** to extract and analyze the physical behavior of the levitated microsphere
- Analyzed rotational and librational motion of optically levitated microsphere using Fourier and Hilbert transforms with SciPy
- Created plots of amplitude ringdown or rotational degree of freedom of levitated microspheres to extract physical constants and characterize proximal gas properties in Matplotlib

University of California, Merced, Prof. Sayantani Ghosh Research Group **Oct. 2015 — May 2018**
Research Student Merced, CA

- Used LabView to perform 2-D spectroscopy scan of Mn doped ZnSe quantum dots.
- Created LabView program to control magnet and read data for Hanle effect measurement.
- Presented to peers and professors in MACES fellowship meetings.