

# Matthew Duong

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## EDUCATION

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### California State University Northridge

Northridge, CA

*Bachelor of Arts in Computer Science*

*Aug. 2019 – December 2023*

### CSUN Dean's List: College of Engineering and Computer Science

December 2019 – December 2023

- Remained on the Dean's List for the entirety of my undergraduate studies
- Maintained a cumulative 4.0 GPA from my freshman year to the end of my senior year

### CSUN Spring 2023 Senior Design Showcase - Oral Presentation Winner

May 2023

- Competed against 12 teams/projects within the Computer Science department

## EXPERIENCE

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### Software Developer Intern: Division 32 (Planetary Science)

August 2022 – Present

*NASA Jet Propulsion Laboratory*

*La Canada Flintridge, CA*

- Worked as a software developer intern for the SPARTA project, specializing in interfacing and automating data acquisition instruments from National Instruments, Transducer Techniques, and Ivium Technologies using *Python*
- Assisted in building a new data collecting test bench using a load cell, torque sensor, and dielectric spectrometer
- New software and test bench replaced the previous Linux based system provided by *Honeybee Robotics*
  - \* Streamlined data processing by eliminating lengthy manual formatting and data-type conversions
    - Replaced the need to manually transfer and convert Linux HDF5 files to CSVs using a separate Windows machine, which could take up to 3-5 minutes per file previously
  - \* Integration of all bench components into a single unified software platform optimized data acquisition efficiency
    - Enabled simultaneous live monitoring of every bench component, while maintaining ease of navigation and user-friendliness
- Expected to deploy a fully automated variant of the data acquisition software within a zero-gravity *Blue Origin* flight payload in 2024 to continuously monitor and log data for 6 consecutive hours
- Conducted test bench field experiments using Lunar and Martian soil samples
- Collaborated on a paper with mentors Dr. Robert Anderson and Dr. Keith Chin by providing data plots and experiment notes gathered from the test bench (*i.e. soil strain, shear strength, water/ice content*)
- Acquired beginner-level skills in electronics from building and wiring test bench components

### Office Student Assistant: Department of Faculty Affairs

Aug 2019 – May 2023

*California State University Northridge*

*Northridge, CA*

- Worked as a receptionist to re-direct calls and/or answer faculty related questions
- Managed and processed electronic faculty forms through document management systems (*Interfolio, Onbase*)
- Assisted in organizing faculty events by creating event calendars and procedural flow charts

## PROJECTS

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### SwiftCheck - Online Medical Checkup - Senior Design | *Jira, HTML, CSS*

Aug 2022 – May 2023

- With five senior Computer Science students, built a website for users to interact with a 3D human model, answer medical probing questions, and get a possible diagnosis
- Took the role of project manager to oversee teammates' duties, task organization, meeting schedules, and oral presentations
- Project demo and oral presentation won the CSUN Senior Design Showcase Oral Presentation in Spring 2023

### Multimedia System Design - Marks Automation Script | *Python, MongoDB*

Jan 2023 – May 2023

- Built an automation script using Python, that automates 4 manual media related positions
- Python code reads proprietary data from Baselight and Flame machines to calculate file system locations of frames in a project's media/video file
- All requests saved to MongoDB database and can be used for data analysis and improve worker efficiency
- Exports as CSV/XLS files with video's time-code and thumbnail preview that can be uploaded to Frame.IO/Shotgrid

## TECHNICAL SKILLS

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**Languages:** Python, Java, HTML, CSS

**Developer Tools:** Github, Jira, Visual Studio Code, Google Colaboratory

**Libraries:** argparse, Matplotlib, NI-DAQmx, pandas, pyvium, Tkinter