

# Matthew Ba Duong

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## EDUCATION

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- California State University Northridge** Aug. 2019 – December 2023  
*B.S., Computer Science*
- Summa Cum Laude** December 2023
- Cumulative 4.0 GPA
- CSUN Dean's List: College of Engineering and Computer Science** December 2019 – December 2023
- Maintained Dean's List position for the entirety of undergraduate studies
- 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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- NASA Jet Propulsion Laboratory, La Canada Flintridge, CA** August 2022 – Present  
*Software Developer Intern: SPARTA (Soil Properties Assessment, Resistance & Thermal Analysis)*
- Designed and interfaced a program using sensor instruments (*i.e. load cells, torque sensors, dielectric spectrometers*) within a Python Tkinter GUI to coincide with the construction a new SPARTA test bench for soil property data acquisition/analysis.
  - Replaced previous Linux system provided by *Honeybee Robotics* with Windows based software, integrating all bench components into one unified platform to maximize operating clarity and data acquisition efficiency
    - Enabled simultaneous live plot monitoring and direct user control of each bench component
    - Streamlined data processing by replacing the need for manual data-type conversions across Windows and Linux
  - Expected to deploy a nearly finalized and fully automated *XML* and *Python* variant of the test bench software within a zero-gravity *Blue Origin* flight payload in June 2024
  - Conducted test bench field experiments using Lunar and Martian soil samples
  - Collaborated on a paper with mentors by providing data plots and experiment notes (*i.e. soil strain, shear strength, water/ice content*)
- California State University Northridge, Northridge, CA** Aug 2019 – May 2023  
*Office Student Assistant: Department of Faculty Affairs*
- Worked as a receptionist to re-direct calls and/or answer faculty related questions
  - 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 Scrum Master 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 used for data analysis and improve worker efficiency
  - Exports as CSV/XLS files with video's time-code and thumbnail preview that can uploaded to Frame.IO/Shotgrid

## TECHNICAL SKILLS

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**Languages:** Python, Java, XML, HTML, CSS  
**Developer Tools:** Github, Git, Jira, Visual Studio Code, Google Colaboratory  
**Libraries:** Tkinter, NI-DAQmx, pyvium, Matplotlib, argparse, pandas, socket, subprocess