Nicholas Mirchandani

nicholas.mirchandani@spacex.com | https://github.com/nicholasmirchandani
https://www.linkedin.com/in/nicholas-mirchandani-851375164/

EDUCATION

Chapman University (2018 - 2022):

Bachelors of Science: Computer Science & Computer Engineering w/ minor in Game Development. 3.775 GPA

PROJECTS

AI for Robotics Transfer Team Lead: *November 2021 – December 2021*

- Team lead on class project where we programmed a Boston Dynamics Spot robot to collect bricks scattered throughout a known area and deposit them in a taped off box in an initially unknown, but unchanging location. As team lead, I coordinated the team. This included planning out the general algorithm that our solution would implement, assigning different tasks to different members to achieve that goal dependent on their own development velocity, and hopping in with some technical assistance myself as needed.

Robotics Club President: *October 2021 – May 2022*

- Founded the Robotics Club at Chapman University, with the goal of supporting students in learning more about robotic systems. Initially, it consisted of recruitment and training, where weekly I would prepare and run workshops and presentations to teach students more about various topics, ranging from applied activities like 3D to conceptual presentations like computer networking. Then, it transitioned to getting various projects off the ground, including having our own members run workshops on laser cutting, 3D printing, wiring, and soldering, to ensure the club would be in a good place once I graduated.

Fugue: *April 2019 – June 2020*

- Lead programmer on Fugue, a game made with Unity based around providing a unique audiovisual experience by taking advantage of the unique synergy between games and music. Responsibilities included implementing the team's ideas and experimenting with shader technologies to create stunning visuals. Fugue was the thesis project of Brandon Cluff and Jordan Mann for their MFAs in Game Design at Laguna College of Art and Design and is available at https://brandoncluff.itch.io/fugue.

Parallax: *August 2019 – May 2020*

- Project manager, programmer, and technical artist for Parallax: a learning experience made in Unity that combines traditional teaching methods with virtual reality supplements to enhance students' understanding of traditionally taught astronomy concepts. Of particular note was that the quarantine for COVID-19 started in March 2020, which required a massive pivot to get the project to an acceptable state given the unprecedented circumstances.

WORK EXPERIENCE

Software Engineer @ SpaceX: *June 2022 – Present*

- Software Engineer on Starlink: the world's largest satellite network. Collaborating with various teams to implement various features and refactors for Starlink. Developing and utilizing queries to monitor the health of all vehicles, improving performance as desired based on observed metrics. Identifying and eliminating bottlenecks to ensure our software is scalable across thousands of vehicles serving many users. Documenting new + existing systems.

Makerspace Assistant @ Chapman University: *September 2019 – May 2022*

- Supervisor in the Makerspace Lab for Chapman's Grand Challenges Initiative, ensuring safety and providing guidance in addition to keeping track of and maintaining equipment. During the quarantine for COVID-19, job responsibilities shifted from supervision to data collection of university data regarding coronavirus closure.

Supplemental Instructor @ Chapman University: *January 2021 – May 2022*

- Supplemental Instructor (SI) for introductory Calculus, preparing for SI sessions aimed at helping students better understand the material by attending lecture, communicating with the professor, and designing worksheets. Also held weekly office hours where students could drop in and ask questions as desired.
- Taught 3 separate full back-to-back classes of Business Calculus on the basics of Neural Networks

Undergraduate Research Assistant (Various) @ Chapman University: *January 2021 – May 2022*

- Worked with various professors to progress various research objectives in optoelectronics, embedded software, image processing, virtual reality, and VLSI. Made presentations to IEEE, SID, and SPIE, and my SPIE Photonics West 2022 presentation was published online with the manuscript.