ANDERSON TRUONG

UCLA Fast Track '25

Hi, I'm Anderson! I'm a SoCal native from Santa Ana, California, and I went to Segerstrom High School.

What are your hobbies or interests?

In my free time, I love working with Python to either build random automation bots or solve coding challenge problems. I unironically ride a unicycle to my classes, so if you see me on it, ask me to do a jump and I'll do it for you. I also enjoy working out at the gym (Wooden is best).

Why electrical engineering and UCLA?

I always knew I wanted to have a career in some sort of engineering field. After attending the lectures during my internship with JPL, especially Dr. Andrew Klesh's lecture on CubeSats and extraterrestrial rovers, I was really considering aerospace or mechanical engineering. However, I was still pretty undecided on what type of engineering I wanted to pursue until college application season. I started talking with a guidance and control systems engineer at JPL who went to UCLA for his B.S. in EE, M.S. in MechE, and Ph.D. in control systems. His experience with UCLA and undergraduate research seemed really good, so I made my decision and haven't looked back.
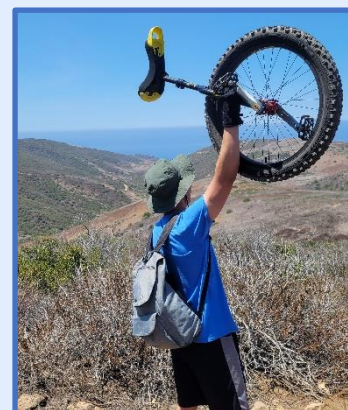
Mountain unicycling

How have you been involved at UCLA?

For the few weeks I've been here, I've joined a few clubs, but I haven't been too active in most of them. The one I'm mainly focused on is IEEE, and I'm working with some friends on our Micromouse project. I've also joined the Biomedical Engineering Society, but I'm not doing any projects with them this year. I also started undergraduate research under Professor Ozcan through HHMI. The research is on the development of diffractive optical neural networks, and my group is currently working on fabricating metasurfaces in the NanoLab.

What are some of your personal projects?

Recently, I've been working on developing Sudoku algorithms that aren't based on backtracking to automatically solve my puzzles. So far, I've coded a hidden single algorithm that's able to solve a medium difficulty Sudoku in around 0.28 seconds (on a good day). The main problem with these algorithms is that they cannot scale with complexity, whereas backtracking algorithms can work with any difficulty. Why not just do backtracking? Cuz backtracking is slow, boring, and too easy :D

Before coming to UCLA, I was working on converting my 3D printer to a direct-drive extrusion setup. However, even after I installed a ton of modifications, I found that I didn't really have anything to 3D print other than parts to make it print better. It's an endless cycle of upgrading to print better upgrades.

```
In [6]:   ▶|  start = time.time()
              test = SudokuSolve(game)
              print(test.TRIAL)
              test.hidden_single()
              print(test.TRIAL)
              time_taken = time.time() - start
              print(time_taken)

          [[0 0 0 0 8 5 0 0 0]
           [0 0 0 4 1 0 0 0 6]
           [6 2 0 7 3 0 1 5 4]
           [4 0 0 0 5 0 2 9 8]
           [0 7 0 0 2 0 0 4 0]
           [9 8 2 0 6 0 0 0 5]
           [1 9 4 0 7 6 0 3 2]
           [8 0 0 0 9 3 0 0 0]
           [0 0 0 5 4 0 0 0 0]]
          [[7 4 1 6 8 5 9 2 3]
           [3 5 9 4 1 2 7 8 6]
           [6 2 8 7 3 9 1 5 4]
           [4 1 6 3 5 7 2 9 8]
           [5 7 3 9 2 8 6 4 1]
           [9 8 2 1 6 4 3 7 5]
           [1 9 4 8 7 6 5 3 2]
           [8 6 5 2 9 3 4 1 7]
           [2 3 7 5 4 1 8 6 9]]
          0.4329378604888916
```

Ok, I swear it was faster on my desktop, and Jupyter on my laptop is kinda slow…

What are your career goals?

I'm not exactly sure what I want to do in the future, but I am interested in robotics, space exploration, and semiconductor design. I know I'm definitely considering graduate school. As long as my job is always interesting, makes a positive impact on the world, and can cover all my expenses, I'll be happy.