

FINDING A PATH TO

A CAREER IN TECH

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WHAT IS THE “RIGHT PATH”?

- ▶ Go for a Masters and/or a PhD?
- ▶ Take time off after school, then apply for a job?
- ▶ Go for a big name company immediately, and stay there your whole career?
- ▶ Hop from startup to startup?
- ▶ Work for yourself/start your own company?
- ▶ There is no **one** right path

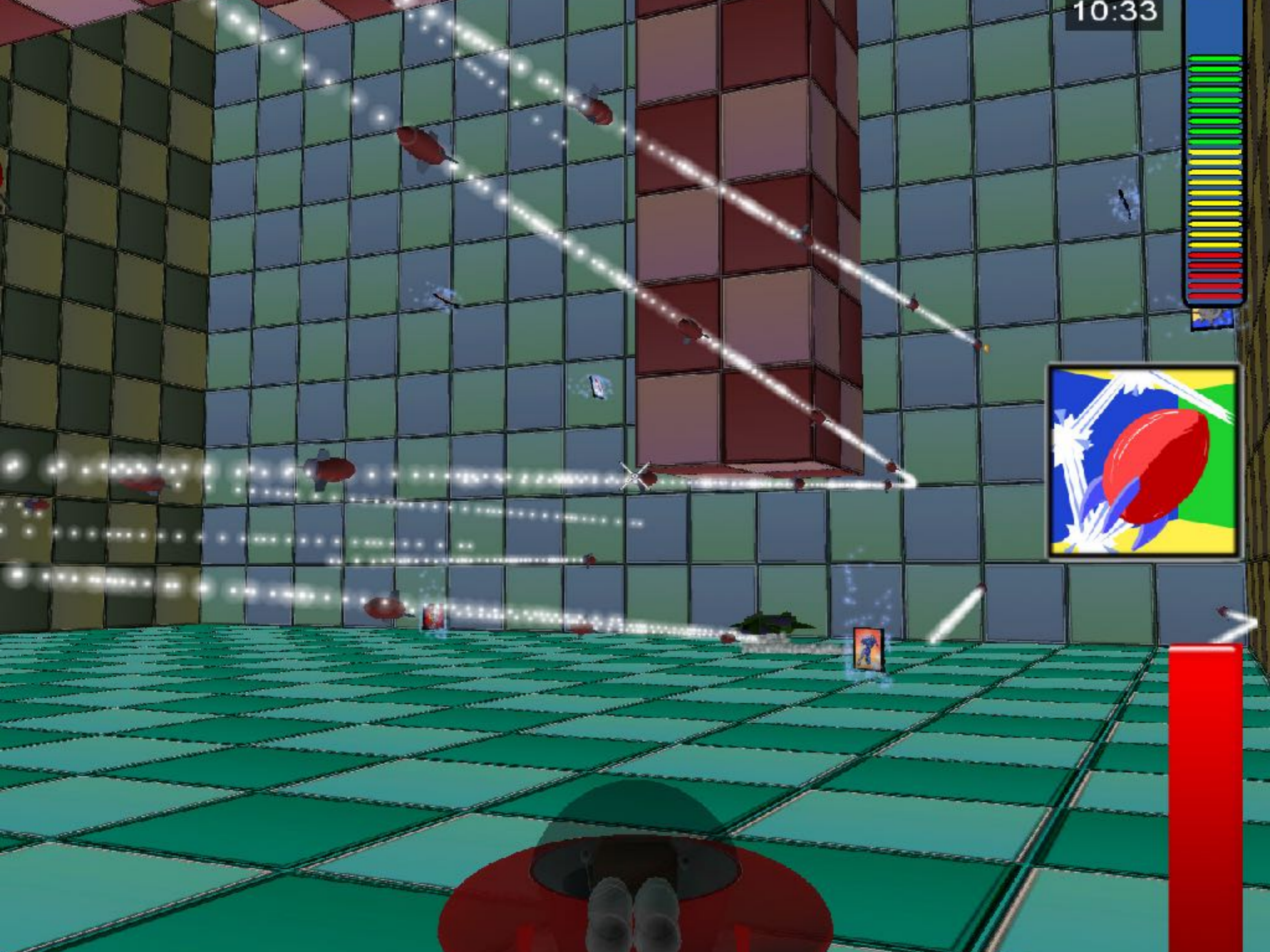
OUTLINE

- ▶ Who am I? How did I get to where I am today?
- ▶ Finding the job/career that's right for you
- ▶ Building your resume
- ▶ Preparing yourself for the interview
- ▶ Q&A: Ask Me Anything

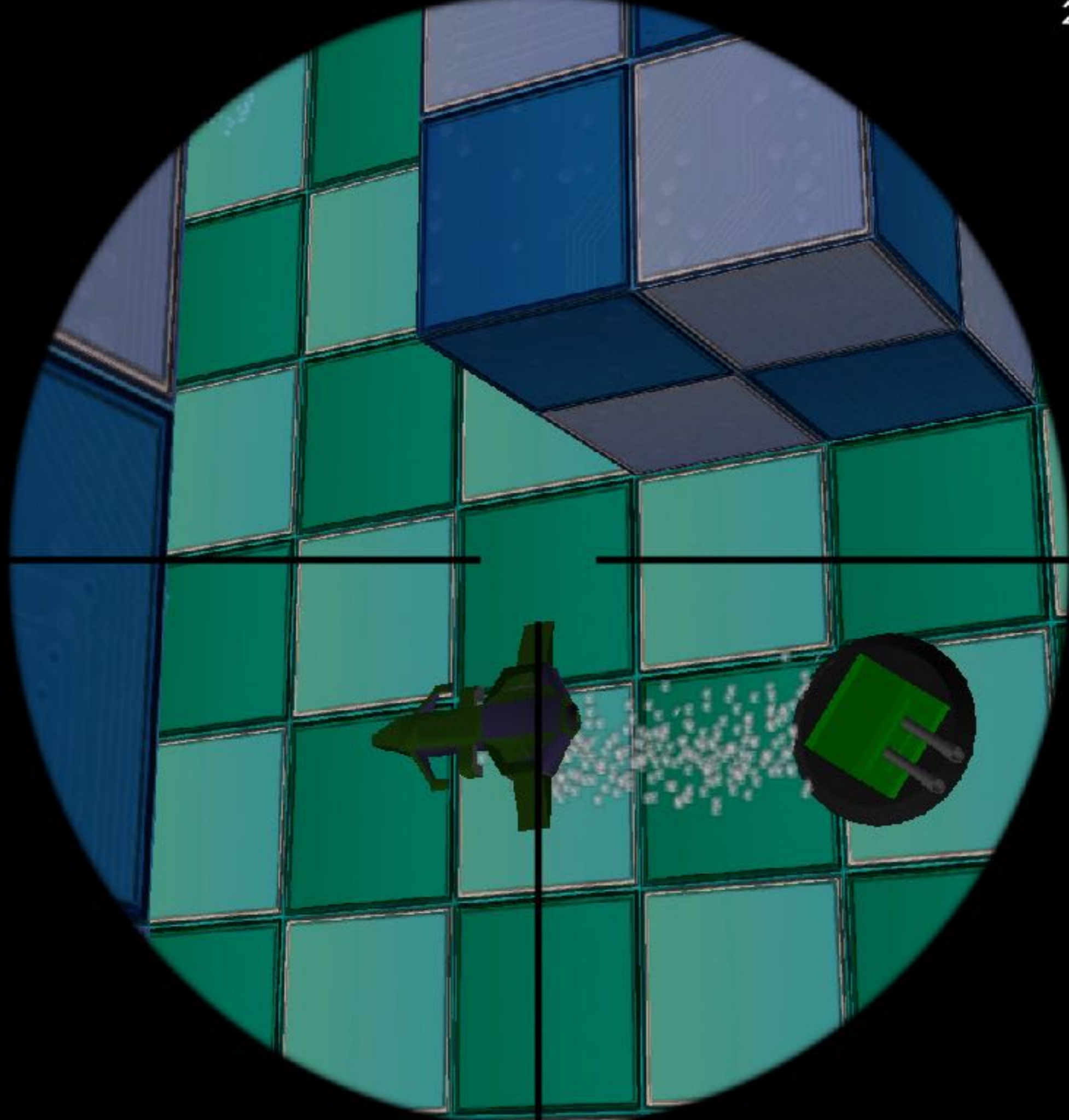
WHO AM I?

- ▶ Graduated from UCSD in 2007 with a Math-Computer Science degree
- ▶ Discovered a passion for Computer Graphics after taking CSE 167, 168, 169, 125, 199
- ▶ 2 years at Bunkspeed working on 3D visualization applications
- ▶ 5.5 years at DreamWorks Animation working on their proprietary film renderer
- ▶ 1.5 years at Apple working on video applications: Motion, Final Cut Pro, Compressor, iMovie, Clips

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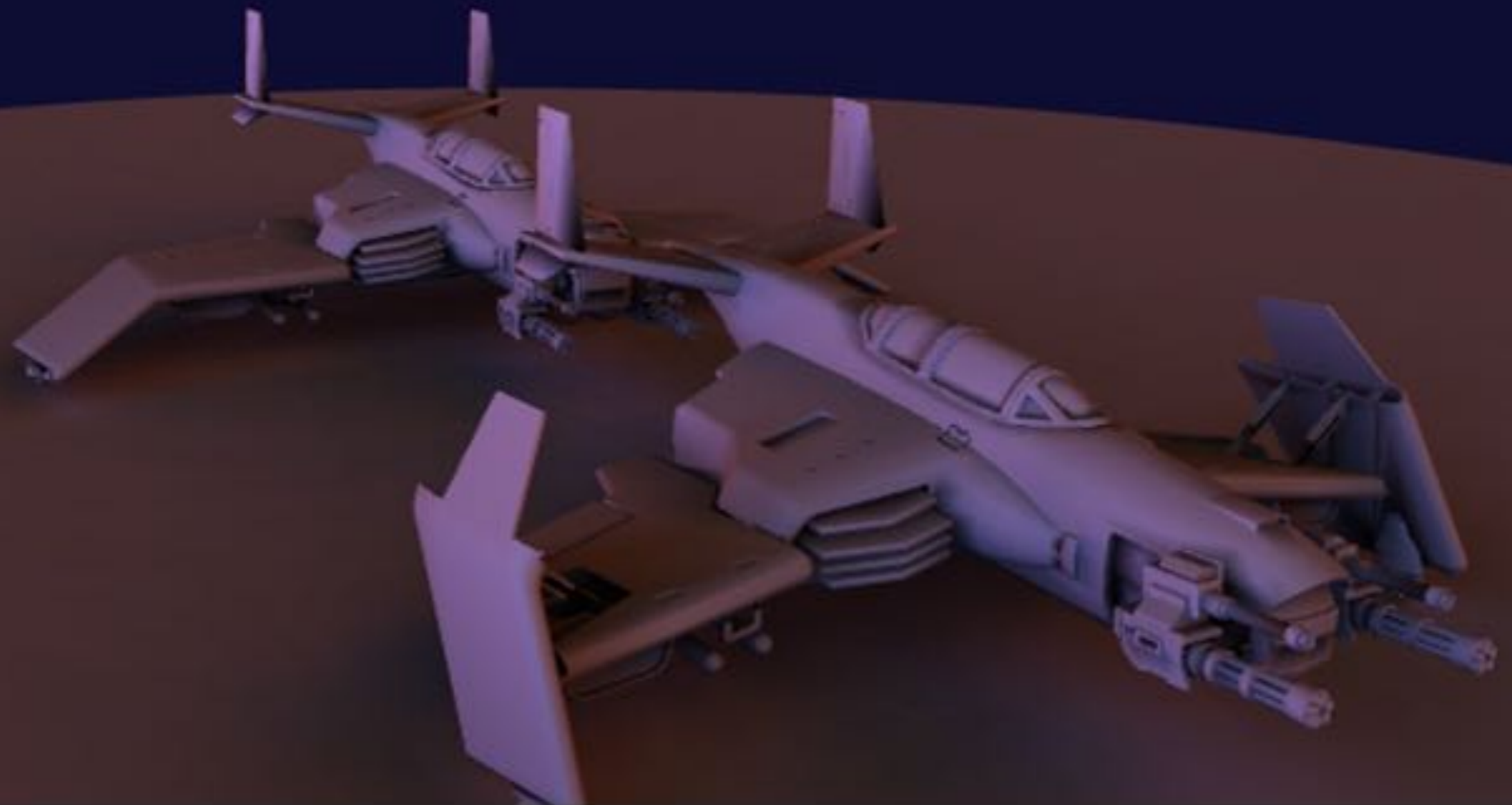
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- ▶ CSE 125 is the class that best prepares you for the working world
 - ▶ Appreciate it, and take full advantage of it
 - ▶ Working on a shared codebase with a team
 - ▶ Experiencing the full software development cycle
 - ▶ Learning on the fly
 - ▶ Pride of delivering a finished product

- ▶ CSE 199 - Independent Study for Undergraduates
- ▶ Work 1 on 1 with a professor studying or researching topics for an entire quarter
- ▶ My work in this class directly led to an offer for my first job at Bunkspeed
- ▶ <http://cse.ucsd.edu/undergraduate/courses/course-descriptions/cse199-independent-study-undergraduates>







PREPARING FOR POST GRADUATE LIFE

- ▶ When I took CSE 169 with Steve Rotenberg, I asked him if his company, PixelActive, was hiring
 - ▶ I expressed interest in internship; unpaid was OK
 - ▶ Steve needed to secure a deal before hiring me as a paid intern
 - ▶ Unfortunately, the deal fell through, and I didn't get the internship

BUNKSPEED

- ▶ Got an email a few months later from Bunkspeed, located in Carlsbad, asking me to come in for an interview
- ▶ How did they find me?
 - ▶ Steve referred me to his brother, Director of Engineering at Bunkspeed
- ▶ Showed them my Independent Study work
- ▶ They expressed interest in bringing the tech into their own software

BUNKSPEED



Bunkspeed

BUNKSPEED



BUNKSPEED





BUNKSPEED

- ▶ 2 rendering engineers, 6 engineers in total
- ▶ 20 - 30 people in the entire company
- ▶ Worked on most aspects of the product to some degree
- ▶ Had to QA a lot of my own work
- ▶ Team chemistry very important due to small size
- ▶ Salary was good enough for a fresh college graduate
- ▶ Very invested in the company's success

BUNKSPEED

- ▶ Laid off after 2 years
- ▶ Moved back up to LA to live with parents
- ▶ Spent 6 months studying and preparing myself for interviews
- ▶ Chance encounter with a friend led to a referral to DreamWorks Animation

DREAMWORKS ANIMATION



DREAMWORKS ANIMATION



DREAMWORKS ANIMATION

- ▶ Combined with the interesting work, immediate jump in salary, well known/respected company, and beautiful campus, I was very happy
- ▶ Constantly inspired by the creative energy and atmosphere on campus

DREAMWORKS ANIMATION

- ▶ Rendering team size fluctuated between 10-20 people
- ▶ ~2,000 people, mostly production related staff (artists, designers, etc.)
- ▶ Loved working closely with artists and writing software to help them make fantastic looking movies
- ▶ Still no QA team, instead, artists were our testers
- ▶ After 5 great years, I was ready for a change
 - ▶ Company also started to feel more unstable
 - ▶ Finally made a LinkedIn profile

PRE-APPLE

- ▶ Spent about 6 months studying, preparing for interviews, and taking interviews, while still working at DreamWorks Animation
- ▶ Didn't pass 2nd Google phone screen
- ▶ Didn't pass MachineZone coding test
- ▶ Didn't pass interviews with 4 separate Apple teams
- ▶ Learned something about myself and got better at interviews each time

PRE-APPLE

- ▶ Ultimately received very similar offers from Microsoft HoloLens team and Apple Motion team
- ▶ HoloLens was really cool tech, but I preferred to stay in LA rather than move to Seattle
- ▶ Also felt Apple's long term prospects were better than Microsoft, but time will tell

APPLE

The screenshot displays the Apple Final Cut Pro X interface for a video project titled "Airpods".

- Test Library:** Located on the left, it contains a list of test assets: "AirPods", "Hue Lightstrip Plus", and "Jeff".
- Project Browser:** Below the Test Library, it shows a hierarchy: "Projects (1)" containing "Airpods", and "Clips (42)" containing "Rings", "Intro", and "Outro". A table below lists these clips with their start and end times.
- Main Preview Window:** The central window shows a video clip of hands holding a white AirPods earbud. The top of this window displays "4K 24p, Stereo" and "Airpods". The bottom of the window shows a playhead at "00:05:08:22".
- Timeline:** The bottom section features a multi-track timeline. The top track is the "Index" track, showing a sequence of video clips. Below it are tracks for "Untitled-6", "Battery..", "Charging Case", and "Rings". A vertical playhead is positioned at approximately 00:05:08:22.

Name	Start	End	Duration
▼ Projects (1)			
Airpods	00:00:00:00	00:08:56:23	00:08:56:23
▼ Clips (42)			
▶ Rings	00:00:00:00	00:04:20:21	00:04:20:21
▶ Intro	00:00:00:00	00:00:03:15	00:00:03:15
▶ Outro	00:00:00:00	00:00:03:18	00:00:03:18

APPLE



APPLE

- ▶ Team is similar size to DreamWorks Animation rendering team, but with less focus on 3D graphics
- ▶ ~100,000 employees across the entire company
- ▶ Strong brand name, pride in seeing people use your company's products every day
- ▶ Team has flat structure, everyone that isn't a manager is equal
- ▶ Good processes already in place for all the stuff unrelated to your direct job
- ▶ Huge jump in compensation

FINDING THE RIGHT JOB

- ▶ I'm biased, but I do think it is good to start small and then grow into bigger companies later
 - ▶ At a small company you learn how everything works, get to explore, and discover what you might be passionate about
 - ▶ Smaller companies tend to pay less, but it also matters less earlier in your life/career
 - ▶ You tend to take more ownership in the company's success
 - ▶ You gain perspective having seen what it's like to work in the trenches

FINDING THE RIGHT JOB

- ▶ Small companies can be more unstable
- ▶ Tend to have everyone do a little bit of everything
- ▶ Can be very disorganized because of lack of structure
- ▶ Sometimes there isn't much growth potential

FINDING THE RIGHT JOB

- ▶ Larger companies tend to have better pay, benefits
- ▶ Tend to have better processes in place so you can just worry about doing what you're good at (what you were hired to do)
- ▶ Tend to be more stable long term
- ▶ Can feel like you're just a small gear in the huge machine
- ▶ Can stifle creativity/innovation

FINDING THE RIGHT JOB

- ▶ Biggest takeaway is to figure out what you really enjoy doing
 - ▶ May involve trying several different things
 - ▶ Worry about money later; being happy/motivated everyday will outweigh making a lot of money but not really caring about your work

BUILDING YOUR RESUME

- ▶ CSE 125 is great for the resume, very few schools offer courses that give you such practical experience
- ▶ Internships are a big plus and often directly transition into full-time jobs
 - ▶ This can be a good way to get into the top tier tech companies
- ▶ Independent studies/projects show a drive for learning outside of required coursework

BUILDING YOUR RESUME

- ▶ Focus on the things you offer that provide value to the company
- ▶ It's OK to puff your accomplishments up a little bit, but don't lie
 - ▶ Companies hire other companies to verify your work history
 - ▶ Companies can and will contact your references
- ▶ I've never had to write a cover letter, but they can definitely help you stand out

PREPARING FOR THE INTERVIEW

- ▶ At Bunkspeed, the interview was casual, no actual code tests
- ▶ At DreamWorks, the interview was more “traditional”
 - ▶ Mixture of personality and technical interviews
 - ▶ 5-6 hours in length, including lunch
- ▶ Apple interviews were similar to DreamWorks, but more whiteboard coding

PREPARING FOR THE INTERVIEW

- ▶ Interviews are often half or full day endeavors
 - ▶ Tech companies more and more want to know that you have the technical chops **and** the right personality
- ▶ Remember that you are also interviewing the company
 - ▶ Trust in your own abilities; you got the interview because they're interested in you

PREPARING FOR THE INTERVIEW

- ▶ Stay relaxed and confident
- ▶ Interviewers sometimes are engineers just like you, and have been through the same process
- ▶ They want to see you do well, not fail
- ▶ Nobody likes a candidate who is too serious and won't mesh with their personality
 - ▶ Remember that they are looking for a good fit for their team, not just someone who has the right technical skills

PREPARING FOR THE INTERVIEW

- ▶ Typical engineering interview process:
 - ▶ Phone screen consisting of casual conversation with a recruiter
 - ▶ Technical phone screen involving questions over the phone, or coding into a shared document while on the phone
 - ▶ Onsite interview consisting of a mix of technical and personality questions
- ▶ This process can take over a month between scheduling logistics and the sheer number of screens

PREPARING FOR THE INTERVIEW

- ▶ Technical phone screen:
 - ▶ Typically one data structures related programming exercise
 - ▶ If it's too hard, people won't have time to finish
 - ▶ If it's too easy, everyone will solve it and they won't learn anything about you
 - ▶ Practice programming problems
 - ▶ Online in a web browser
 - ▶ In your favorite IDE

PREPARING FOR THE INTERVIEW

- ▶ Onsite interviews:
- ▶ In many cases, a longer version of the phone screen where you write code on a white board while people watch
- ▶ More about the process in solving the problem, not necessarily the final solution
- ▶ Practice writing code by hand, either on a white board or a piece of paper
 - ▶ It feels very different when you don't have auto indentation, syntax coloring, autocomplete, etc.

PREPARING FOR THE INTERVIEW

▶ Resources:

- ▶ <https://leetcode.com/problemset/algorithms/>
- ▶ [Cracking the Coding Interview](#)
- ▶ <https://github.com/jwasham/coding-interview-university>
- ▶ <https://pramp.com/> (?)

PREPARING FOR THE INTERVIEW

- ▶ Always verbalize your thoughts; it helps you gather your thoughts while showing the interviewer how you think
 - ▶ They can help guide you if you're going off track
 - ▶ Can demonstrate that you know the necessary basics even if you don't arrive at the final solution
 - ▶ It can help you organize your own thoughts simply by talking through them
 - ▶ Practice doing this at home with online coding problems

PREPARING FOR THE INTERVIEW

- ▶ Write notes on the whiteboard if it helps you
- ▶ Work out example inputs and outputs for your code
 - ▶ Helps identify corner cases
 - ▶ Helps even if you haven't finished writing all the logic; can help you see the next step

PREPARING FOR THE INTERVIEW

- ▶ Break up the problem into pieces, and write a function for each piece
 - ▶ Frees up your focus to solve smaller problems instead of trying to keep the entire solution in your head at once
- ▶ Don't be afraid to "ask" for help, clarification, or guidance
 - ▶ If you are stuck, don't just sit there silently. Keep verbalizing what you are thinking

PREPARING FOR THE INTERVIEW

- ▶ Summary:
 - ▶ Stay relaxed and loose, have fun with the interviewers
 - ▶ Practice programming problems and mock interviews
 - ▶ Practice in an IDE and also by hand (paper, whiteboard, etc.)
 - ▶ Break down the question into smaller chunks
 - ▶ Verbalize your thought process during the interview, and don't be afraid to ask for help

Q&A

- ▶ Ask (almost) anything you want
- ▶ Some things I didn't cover or could go into more depth about:
 - ▶ Deeper dive on building your resume
 - ▶ Salary negotiation (during offer stage and employment)
 - ▶ Example of breaking down an interview question
 - ▶ Career growth, getting promotions
 - ▶ Leveraging your network into opportunities

THANK YOU

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