

# LYSANDER SCHMIDT

## Autonomous Vehicles Software Engineer

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on request  
lysanderschmidt

Redwood City, CA

## EXPERIENCE

### Cavalier Racing — Indy Autonomous Challenge

#### Software Engineer

April 2025 – Ongoing

University of Virginia

- I wrote code to process LiDAR point clouds of racetracks, to extract surface normals from the roadway surface. (This was necessary to race at Laguna Seca, pictured.) I also wrote code to extract just the norms along planned race-lines, and to load them into a k-d tree, which serves pitch and roll in real time on the car, which allows the gravity component to be accurately subtracted from accelerometer readings, providing better inputs to the localization EKF.
- I wrote code to live-compare the expected/optimal with actual time for each turn, to help identify which areas to investigate after the run.
- Current Project: The problem is that the vehicle follows a pre-computed race-line, and we modify speed during testing by scaling or setting a maximum speed. However, we want to test by setting maximum (lateral and longitudinal) tire forces. My project is to compute optimal trajectories and velocity profiles constrained by tire-force limitations, on demand.

### F1Tenth Course (AV Perception, Planning, and Control)

#### Teaching Assistant

Fall 2025

University of Virginia

- F1Tenth is a feeder course for the autonomous racing team, where students work in groups to program an autonomous 1/10 scale car that races around a classroom-sized racetrack.
- I hold office hours, assist with grading, address configuration and vehicle issues.

### Right Option AI

#### Creator

Summer 2025

rightoption.ai

- Fastest way to get answers (with or without contextual screen info) via voice input with text and speech readback, using the **right Option** key to activate.
- Uses o4-mini for answers, Gemini Flash for web search, Whisper via Groq for STT, and Amazon Polly or ElevenLabs for TTS.
- Dictation-only mode understands technical jargon, and will copy-edit your spoken words (optionally making them more concise), and paste in your current app.
- TRY IT YOURSELF (on a recent Mac) at RightOption.ai

### Stanford Radiochemistry

#### Lab Assistant

Summer 2024

Stanford School of Medicine

- Increased efficiency and saved coworkers' time by automating data reporting processes (ex: converting machine generated reports to CSV; using GPT-4o to parse scanned handwritten documents for data aggregation).
- Managed radiation containment and safety during transport and delivery of radiopharmaceuticals and acted quickly to mitigate containment breaches. DoT Certified.
- Performed flexible roles such as IT support and medical equipment setup and troubleshooting.



## EDUCATION

### B.S. in Computer Science

University of Virginia,  
School of Engineering

### Minor in Leadership

McIntire School of Commerce

May 2026

## LANGUAGES & TOOLS

Typescript (& Javascript)

C++

C

Python

Java

Swift (for system calls)

ROS

git

HTML

Excel

node:crypto & Web Crypto(graphy)

Relational DBs (via Prisma, Drizzle)

Bun

Node

Tailscale

AWS

Visual Studio Code

Google Cloud

Linux (Debian, Ubuntu, Alpine)

Docker

## ACTIVITIES & CLASSES



### UVA Entrepreneurship Cup \$1000 Winner

with two business partners, for  
an idea to combat social isolation



### Projects with Friends

Created mechanism by which  
UValentine.com spread to 8000+  
users in ~48 hours.

Built software to allow student  
organizations to easily run the  
game of assassin.



### Selected Courses

Natural Language Processing,  
Privacy in the Internet Age,  
Effectual Entrepreneurship,  
Product and Project Management,  
Advanced Business Speaking