Self-Driving Car Engineer

NANODEGREE PROGRAM

Welcome Handbook

Welcome to Day 1 of the Self-Driving Car Engineer Nanodegree program. Enrolling was just the first step. Today, you embark on your journey to join the ranks of some of the world's first self-driving car engineers. Upon completing the program, you'll be on your way to working alongside the forerunners in this exciting new field. To prepare you for success, we've compiled essential information for this digital handbook. Congratulations on your first day.

Table of Contents

Meet the Team

Meet the Team

Instructors - David Silver, Ryan Keenan, Drew Gray, Cameron Pittman, Bryan Catanzaro, Axel Gern, Brok Bucholtz, Dominique Luna

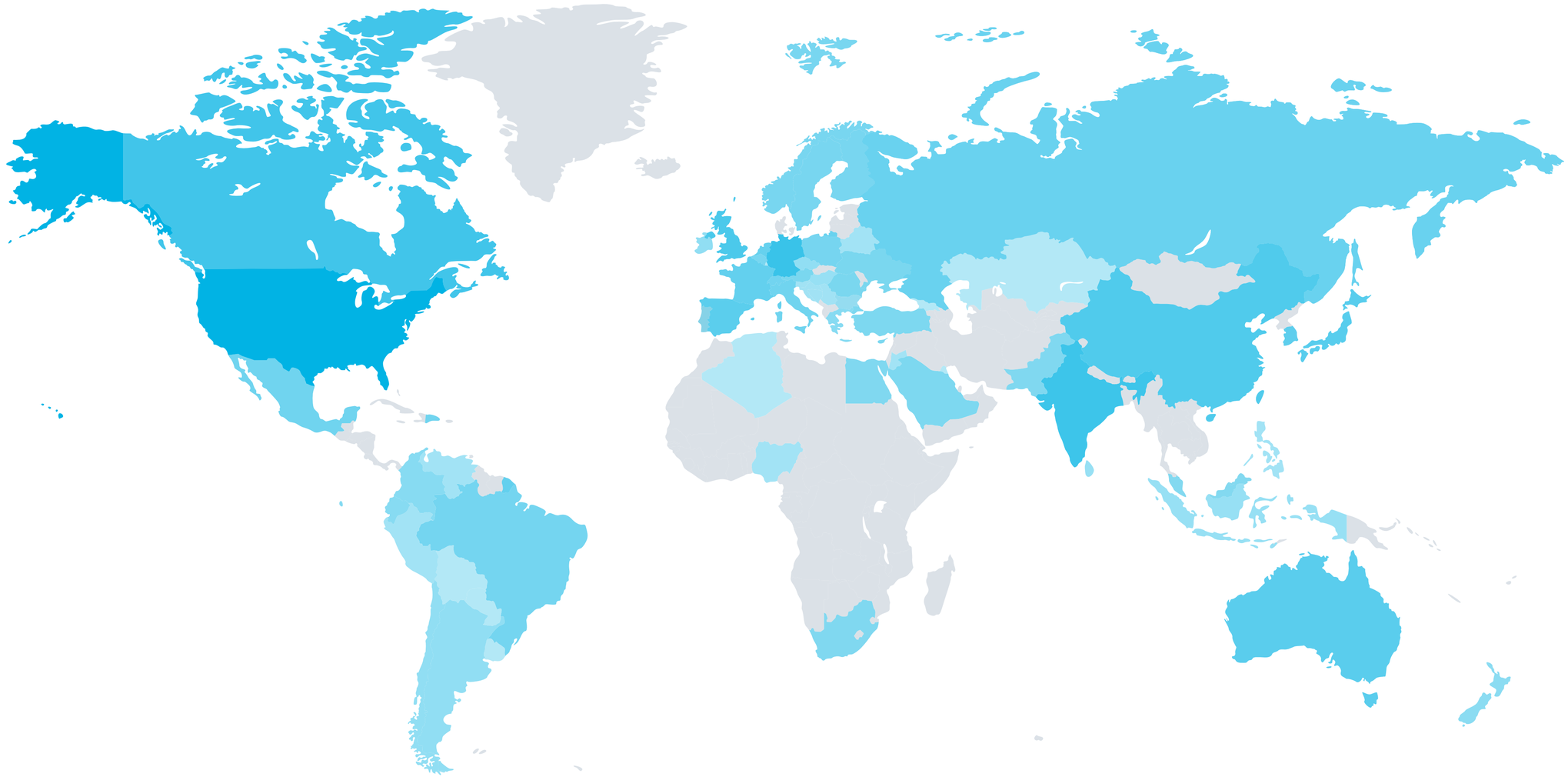
Services Lead - Stephen Welch

Open Source Self-Driving Car Team - MacCallister Higgins, Eric Gonzalez

Leads - Dhruv Parthasarathy, Oliver Cameron, Jessica Lulovics

Community - Lisbeth Ortega

Where Our Students Are



Your Resources

Facebook Group

Join the Facebook group for your class for the latest updates from the team regarding community events, special opportunities, and to further get to know your classmates. This is a great chance for you to grow your network and get to know the future Self-Driving Car engineers!

Join the October Class Facebook Group

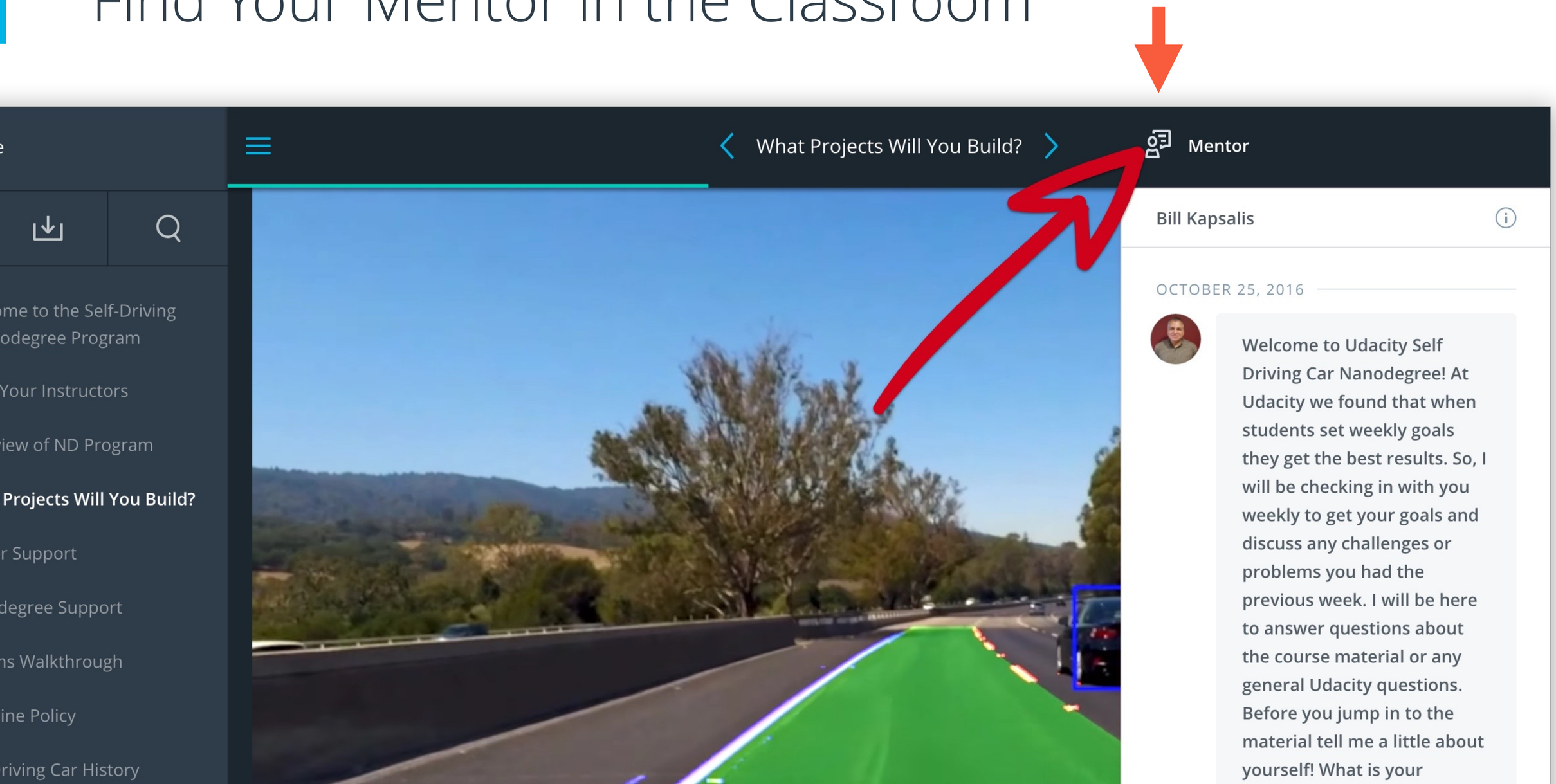
Your Mentor

Each Self-Driving Car Engineer Nanodegree program student gets his or her own personal mentor. This mentor will get to know you, your learning style, and will be able to help you get exactly what you want out of your Nanodegree program.

With Mentorship you'll be able to:

- Get help from your mentor without even leaving the classroom
- Receive 1:1 on-demand support via your personal chat channel
- Stay on track through weekly check-ins

Find Your Mentor in the Classroom

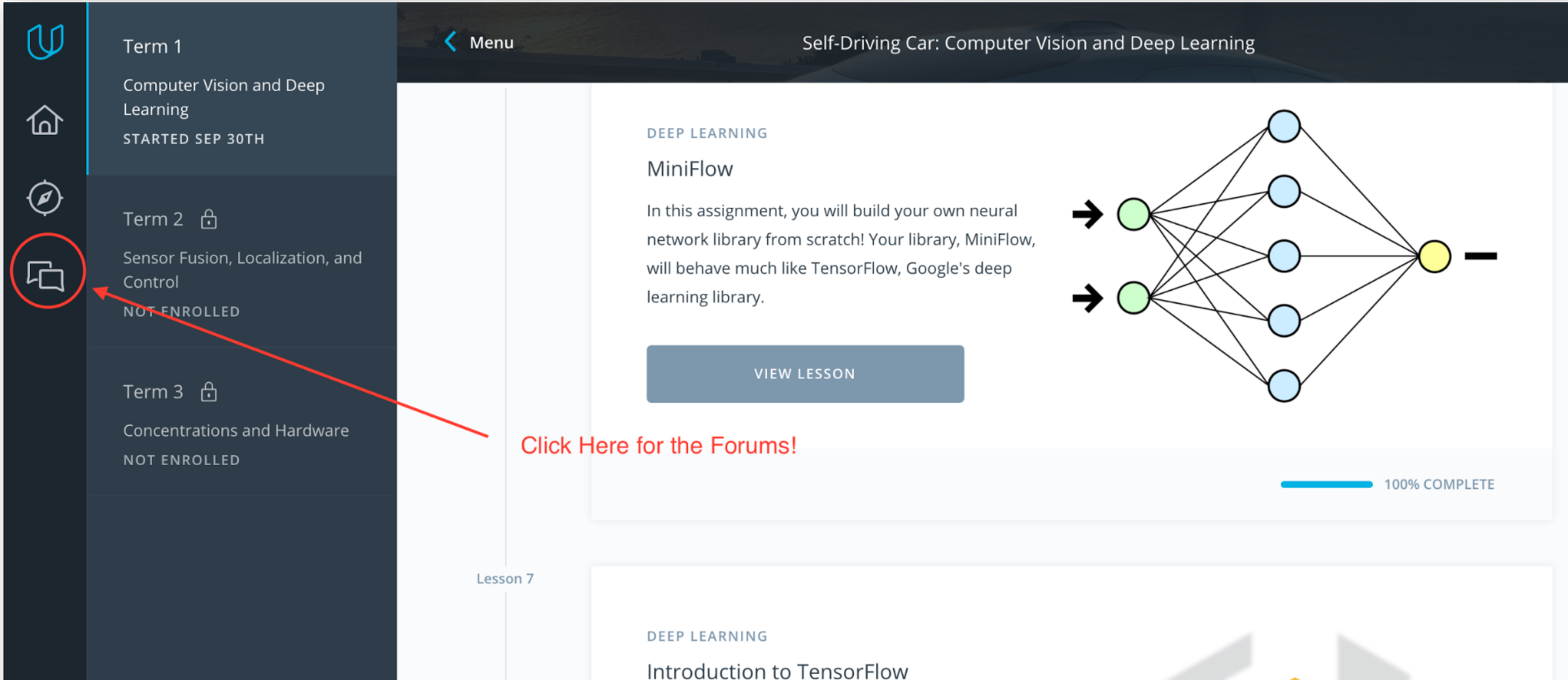


Forums

In the Self-Driving Car Engineer Nanodegree program, you'll have access to an exclusive forum. In this forum you'll not only be able to talk to other passionate students, but also receive help from our expert Coaches and dedicated staff.

We monitor and respond to an ongoing stream of detailed feedback from student forum participants, and this has allowed us the opportunity to constantly refine, enhance, and upgrade the model. Thanks to your feedback in the forums, we can ensure the Nanodegree program improves over time.

Find Forums in the Classroom



Slack

For the first time ever, Udacity students of a single class can interact with each other live via Slack. With a designated private slack team for your class, connect directly with students who are online the same time as you: ask questions, exchange ideas, and get to know your fellow classmates.

Join the exclusive Slack Team for October students. Once you're in, click on Channels, and introduce yourself on the **#introduction** channel!

Support

Reach out anytime. Udacity has dedicated support for the Self-Driving Car Engineer Nanodegree program. Simply reach out on the forums or at **selfdrivingcar-support@udacity.com**.

What to Expect

See our full **Self-Driving Car Engineer Nanodegree FAQ** and **general Udacity FAQ**.

Class Timeline **Pacing**

This is a unique, three-term program that requires students to keep pace with their peers throughout the duration of the program. Each term is around 3 months. The entire Nanodegree program takes 9 months to complete. Read more on the Term 1 curriculum.

Class Timeline **Curriculum**

Read all about the Term 1 curriculum as detailed by instructor David Silver. Please note that the Computer Vision Module, the final lesson which includes two projects, opens on November 28th.

Class Timeline **Deadlines**

There are two components to deadlines:

1. **Deadline for passing all projects:** a Udacity Reviewer has marked your project as “Meets Specifications.” In order to graduate a term, you have to pass all projects by the last day of the term.
2. **Suggested deadlines for projects:** The deadlines you see in the classroom are suggestions for when you should pass your project by. There are no penalties if you miss these deadlines. However, you will be at a severe risk of not passing all projects on time if you miss these suggested deadlines.

Class Timeline **Missing Deadlines**

Our coaches and mentors will work directly with any students who are struggling with the timeline requirements. Our ultimate goal is to ensure that every single student accepted into the program successfully graduates.

If you do not pass all projects by the last day of the term, the following happens:

- You are not eligible for career services and events with hiring partners.
- You are moved to the previous class and will not graduate with your class. You will only be moved back a class a maximum of once. If you are moved back more than once you will no longer be a part of the program.

Class Timeline **Time Dedication**

10 HOURS / WEEK

Between instructional content, quizzes, projects, and other course-related activity, we estimate that investing 10 hours/week will enable you to proceed through the program at a successful pace.

Class Timeline **Schedule**

Oct 27th	Launch
Nov 4th	Lane-Finding Project Due
Nov 25th	Traffic Sign Classification Project Due
Dec 9th	Behavioral Cloning Project Due
Jan 6th	Advanced Lane-Finding Project Due
Jan 20th	Vehicle Tracking Project Due
Feb 3rd	End of Term (all projects must be passed)

There will be a holiday break for all cohorts between December 19th, 2016 and January 2nd, 2017.

Your deadlines will be postponed until after this period.

Community

Finding support in fellow students can make all the difference in your educational experience. Take advantage of your class Facebook group, Slack channel, and Udacity forums. These are all spaces to exchange ideas, questions and progress with your classmates.

Community (cont.)

COMMUNITY EVENTS

Community events will give you the opportunity to meet classmates both on and offline (dependent on location), team-build and take part in extracurricular opportunities.

SELF-DRIVING CAR CHALLENGES

To kickoff the Self-Driving Car Engineer Nanodegree program, we introduced Udacity Challenges. Our goal is to create the world's first open source autonomous vehicle! To do this, we've broken the process down into six challenges that are open to the public and each offer a variety of prizes. While these challenges are independent of the Nanodegree program, we encourage students to participate and follow along. Read more about the process.

What to Expect After Graduation

CAREER SERVICES

With a total of 14 hiring partners for the Self-Driving Car Engineer Nanodegree program alone, students have unprecedented opportunities to become a part of this amazing new field. Begin by keeping your Udacity profile up to date and turning on recruiter access. Read more about career services here.

STUDENT WORK OPPORTUNITIES

Continue to be a part of the Udacity student community with your skills. Opportunities include paid positions as Mentors, content creators, and more. Get in touch with us if you would like to participate.

Policy

COST

The Nanodegree program costs $800 per 3-month term

REFUND

Students have a 7-day window from the day they receive access to the program, the first day of their class, to un-enroll and request a refund. To request a refund, email **selfdrivingcar-support@udacity.com**.

Further Reading

Courses on Udacity

Machine Learning Engineer Nanodegree by Google (Currently Available)

Artificial Intelligence for Robots (Free Course)

Intro to Statistics (Free Course)

Deep Learning (Free Course)

Programming Foundations with Python (Free Course)

Introduction to Computer Vision

Reading Resources

Self Driving Car Employers (Medium)

Are Udacity Nanodegrees worth it for finding a job? (Quora)

Udacity Nanodegree Reviews: Your Questions Answered (Udacity Blog)

We're Building an Open Source Self-Driving Car (Medium)

In-Depth on Udacity's Self-Driving Car Curriculum (Medium)

Announcing New Hiring Partners for Our Self-Driving Car Engineer Nanodegree Program (Udacity Blog)

Open Sourcing 3½ Hours of Driving Data (With LIDAR!) (Medium)

Open Sourcing 223GB of Driving Data (Medium)

News / Resources

Self-drive taxis to be tested in Singapore (BBC)

GM buys self-driving car kit startup Cruise, plans to use tech to make driverless cars (TechCrunch)

26-year-old hacker gets $3M for self-driving car startup (CNN)

Zoox raises $200 million at $1 billion valuation for its self-driving cars (TechCrunch)

Mercedes Self Driving Bus Official Commercial (YouTube)

End to End Learning for Self-Driving Cars (NVIDIA)

33 Corporations Working On Autonomous Vehicles (CB Insights)

On the road with George Hotz's $1,000 self-driving car kit (The Verge)

News / Resources (cont.)

Trucking Industry (OTTO)

Self-Racing Cars Kick Off First Autonomous Vehicle Track Day (NVIDIA)

Open Source Projects

comma.ai for the people to experiment with too (Comma.ai)

Datasets

Cityscapes Dataset

Robot Car Datasets

Self Racing Cars Dataset

Self Racing Cars Dataset 2

Comma.ai Driving Dataset

Other Resources

Stanford Convolutional Neural Networks for Visual Recognition

Deep Learning Framework written in Swift to use on apple devices (written by @amund)

Image Segmentation From comma.ai