UDACITY
FOR ENTERPRISE

THE SCHOOL OF DATA SCIENCE

Privacy Engineer

Privacy Engineer Nanodegree Program

The Privacy Engineer Nanodegree program will prepare students to create technical solutions and implement privacy principles by integrating Privacy-by-Design into product development, data infrastructure, and software release lifecycles. By the end of this program, students will be able to use Privacy-by-Design to create solutions that ensure the correct implementation of privacy policies, evaluate privacy compliance risks throughout the data lifecycle, recommend mechanisms to address risks, and execute technical controls that reduce risk and improve data protection.

Educational Objectives

- Apply Privacy-by-Design principles in developing product features to ensure the accurate implementation of privacy policies.

- Evaluate data risks to recommend the mechanisms that can comply with the most common privacy regulations and policies across the industries.

- Develop the technical controls that can minimize the data privacy risks and improve data protection.

Program Information

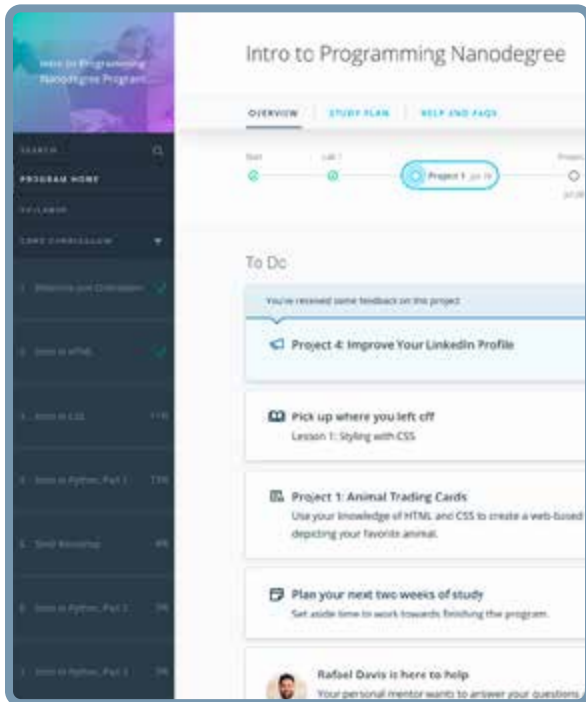**TIME**
2 months
Study 5 hours/week

LEVEL
Intermediate

PREREQUISITES
• Intermediate knowledge of Python
• Intermediate knowledge of SQL
• Basic knowledge of Typescript (optional)

LEARN MORE ABOUT THIS NANODEGREE
Contact us at enterpriseNDs@udacity.com.

Our Classroom Experience

REAL-WORLD PROJECTS
Learners build new skills through industry-relevant projects and receive personalized feedback from our network of 900+ project reviewers. Our simple user interface makes it easy to submit projects as often as needed and receive unlimited feedback.

KNOWLEDGE
Answers to most questions can be found with Knowledge, our proprietary wiki. Learners can search questions asked by others and discover in real time how to solve challenges.

LEARNER HUB
Learners leverage the power of community through a simple, yet powerful chat interface built within the classroom. Learner Hub connects learners with their technical mentor and fellow learners.

WORKSPACES
Learners can check the output and quality of their code by testing it on interactive workspaces that are integrated into the classroom.

QUIZZES
Understanding concepts learned during lessons is made simple with auto-graded quizzes. Learners can easily go back and brush up on concepts at any time during the course.
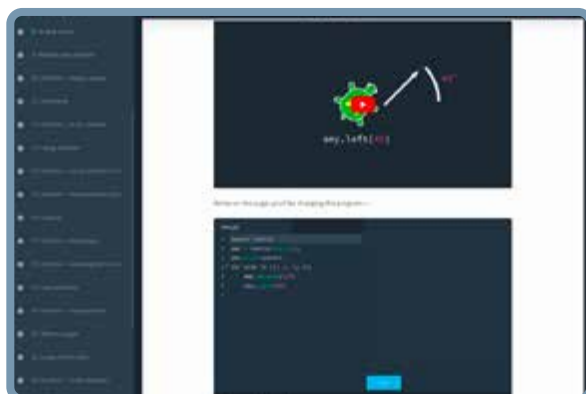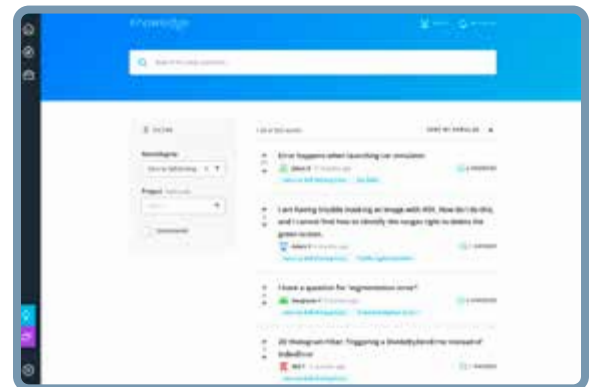
CUSTOM STUDY PLANS
Mentors create a custom study plan tailored to learners' needs. This plan keeps track of progress toward learner goals.

PROGRESS TRACKER
Personalized milestone reminders help learners stay on track and focused as they work to complete their Nanodegree program.

Learn with the Best

Mihir Patil

TECHNICAL LEAD, PRIVACY & CIVIL LIBERTIES ENGINEERING

Mihir Patil is a Technical Lead on the Privacy & Civil Liberties team at Palantir Technologies. He has worked with numerous customers like the World Food Programme, multinational pharmaceutical and telecommunications companies, as well as organizations in the U.S. defense space to implement technical solutions for protecting individual liberties.

Richard Phung

INFORMATION SECURITY ANALYST

Richard is an SSCP, CISSP and CIPP/US with over a decade of enterprise systems administration experience, working with businesses to meet the demands of a continually evolving threat landscape. Richard holds a BA in Psychology from Hendrix College and a Master's of Education from Lesley University.

Dante Avery

DIRECTOR OF SECURITY

Dante Avery is a Principal Engineering Manager at Microsoft, where he leads the Security, Privacy and Compliance team for Yammer. He formerly worked as an Application Security Engineer at Scottrade, where he performed security assessments. He has a Bachelor in Computer Science from University of Missouri, St. Louis.

Course 1: Privacy Engineering for User-Facing Software Applications

Get a practical introduction to privacy-focused software engineering that teaches you the principles and tools of data protection in the software world. Some topics covered include data minimization, personal information detection, as well as technical implementations of aspects of privacy legislation.

Project	Designing a Privacy-Protective Voting-Booth Application

In this project, we build a privacy-protective application that is designed to help voters record their votes at a voting booth. The goal is to ensure the accurate count of election results, while preventing double voting, protecting ballot secrecy, and generally protecting the data associated with individual voters. When completed, this project is a high-level technical manifestation of a foundational, democratic need in many societies today.

Nanodegree Program Overview

LESSON TITLE	LEARNING OUTCOMES
PRIVACY ENGINEERING FUNDAMENTALS	• Distinguish between the seven Privacy-by-Design principles, and determine which are most critical at the software development stage • Distinguish between users and data subjects in the context of privacy engineer • Evaluate what data is necessary for specific software workflows • Distinguish between identifying and managing sensitive data
PRIVACY ENGINEERING FOR COMPLIANCE	• Compare GDPR and CCPA at a very high-level and determine their commonalities, including data portability/transparency, the right to be forgotten, and the unknowns of the laws • Write code to enforce the right to be forgotten • Evaluate which tier of deletion is best for a given privacy use-case
TRACKING SENSITIVE DATA	• Track sensitive data in an unstructured format • Design software to track sensitive data in a structured format • Address subject data access requests in the design of their systems
DATA MINIMIZATION	• Use encryption and hashing to protect privacy in their software systems • Choose between the various types of encryption and hashing when building software • Recognize common pitfalls of data minimization in general • Use redaction and obfuscation in text

Course 2: Organizational Privacy Engineering

Privacy engineering isn't all technical—it requires a culture of privacy to be built into organizations. This course outlines the fundamentals of privacy that are critical to implement into an organization.

Project	Udacity Health Care Privacy Assessment

In this project, you will perform a privacy assessment of a web application called Udacity Health and will utilize the concept of K-anonymity to anonymize a data set.

| LESSON TITLE	LEARNING OUTCOMES
PRIVACY FUNDAMENTALS	• Distinguish between privacy, compliance, and security • Explain the difference between privacy regulations and consumer concerns • Outline how user data is protected during the data lifecycle • Use privacy principles to ensure data privacy of consumer data
PRIVACY REGULATIONS	• Identify privacy violations in regards to healthcare regulations • Identify privacy violations in regards to regional privacy regulations • Identify privacy violations in regards to financial privacy regulations • Identify privacy violations in regards to children privacy regulations • Identify privacy violations in regards to electronic communications regulations
TECHNIQUES AND CONTROLS	• Classify and prioritize sensitive data • Know when to use anonymization on consumer data • Distinguish between different anonymization techniques • Use K-anonymity to anonymize data
PRIVACY ASSESSMENT	• Create a privacy assessment • Follow a process to identify privacy issues • Document findings and provide recommendations for issues

Our Nanodegree Programs Include:
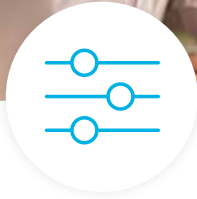
Pre-Assessments

Our in-depth workforce assessments identify your team's current level of knowledge in key areas. Results are used to generate custom learning paths designed to equip your workforce with the most applicable skill sets.

Dashboard & Progress Reports

Our interactive dashboard (enterprise management console) allows administrators to manage employee onboarding, track course progress, perform bulk enrollments and more.

Industry Validation & Reviews

Learners' progress and subject knowledge is tested and validated by industry experts and leaders from our advisory board. These in-depth reviews ensure your teams have achieved competency.

Real World Hands-on Projects

Through a series of rigorous, real-world projects, your employees learn and apply new techniques, analyze results, and produce actionable insights. Project portfolios demonstrate learners' growing proficiency and subject mastery.

Our Review Process

Real-life Reviewers for Real-life Projects

Real-world projects are at the core of our Nanodegree programs because hands-on learning is the best way to master a new skill. Receiving relevant feedback from an industry expert is a critical part of that learning process, and infinitely more useful than that from peers or automated grading systems. Udacity has a network of over 900 experienced project reviewers who provide personalized and timely feedback to help all learners succeed.

Vaibhav
UDACITY LEARNER

"I never felt overwhelmed while pursuing the Nanodegree program due to the valuable support of the reviewers, and now I am more confident in converting my ideas to reality."

now at
CODING VISIONS INFOTECH

All Learners Benefit From:

Line-by-line feedback for coding projects	Industry tips and best practices	Advice on additional resources to research	Unlimited submissions and feedback loops

How it Works
Real-world projects are integrated within the classroom experience, making for a seamless review process flow.

- Go through the lessons and work on the projects that follow
- Get help from your technical mentor, if needed
- Submit your project work
- Receive personalized feedback from the reviewer
- If the submission is not satisfactory, resubmit your project
- Continue submitting and receiving feedback from the reviewer until you successfully complete your project

About our Project Reviewers

Our expert project reviewers are evaluated against the highest standards and graded based on learners' progress. Here's how they measure up to ensure your success.

900+	1.8M	3	4.85/5
Expert Project Reviewers	**Projects Reviewed**	**Hours Average Turnaround**	**Average Reviewer Rating**
Are hand-picked to provide detailed feedback on your project submissions.	Our reviewers have extensive experience in guiding learners through their course projects.	You can resubmit your project on the same day for additional feedback.	Our learners love the quality of the feedback they receive from our experienced reviewers.

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For more information visit: www.udacity.com/enterprise