



## Udacity Technology Scholarship Program FAQs for Bertelsmann Employees

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*“The world of work is becoming increasingly digital, with digital skills becoming more and more important in every industry. There is already a shortage of skilled workers in the digital domain, and it will only increase in the next few years. At the same time, digitalization is leading to certain work activities being replaced by tech solutions in the future. Bertelsmann’s media, services, and educational offerings make us a leader in many areas of the digital world; we deal intensively with the opportunities opened up by new technologies. Accordingly, we see it as our responsibility to empower as many people as possible to be successful in the digital world, and to support policymakers in this. This is why we are launching, together with Udacity, a global corporate-training initiative in the fields of Cloud, Data, and Artificial Intelligence.”*

– Thomas Rabe, Bertelsmann Chairman & CEO –

### General

#### What is Udacity?

Udacity, a global pioneer in lifelong learning, is an online education platform that develops practical tech-focused online courses in collaboration with leading tech companies. The company is headquartered in Mountain View, California. Bertelsmann is one of Udacity’s largest shareholders. Udacity’s Nanodegree programs are co-created with industry leaders and are designed for lifelong learners. Udacity Nanodegree programs focus on jobs related to Software Development, Data Science, Cloud Computing, Artificial Intelligence and more.

#### What is a Nanodegree program?

A Nanodegree program is an innovative online curriculum path that is outcome-based and career-oriented. Every program provides a clear end goal, and the ideal path to get the students there. Courses are built with industry leaders like Google, AT&T, and Facebook, and are taught by leading experts on the respective subjects. While progressing through a Nanodegree, students benefit from personalized mentoring for technical support, as well as detailed project reviews and feedback. Graduates earn an industry-recognized credential and benefit from extensive career support.



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### The “Udacity Technology Scholarship Program”

#### What is the “Udacity Technology Scholarship Program”?

Bertelsmann is launching a global education initiative to strengthen people’s tech skills: Over a three-year period, Bertelsmann is investing several million euros in funding as many as 50,000 tech scholarships on the online education platform Udacity. The idea is to teach employees the digital skills needed for tomorrow’s job market. Specifically, the Group is funding 15,000 tech scholarships annually for Udacity Challenge Courses. In addition, the top ten percent of participants will receive a scholarship for a full Nanodegree in their selected subject area.

The scholarship program is aimed equally at beginners (basic computer skills are recommended) and experienced programmers. It focuses on three tech learning paths:

- Cloud, i.e. applications for online-based IT infrastructures
- Data, i.e. applications for the analysis and interpretation of large volumes of data
- Artificial Intelligence (AI), i.e. applications related to machine learning and intelligent algorithms

The program builds on the success of earlier initiatives: In recent years, Bertelsmann had already endowed several thousand scholarships as part of a collaboration with Google. The offer generated a great response, and the EU Commission recognized the joint training initiative with its EU Digital Skills Award.

#### Who can apply?

All Bertelsmann employees, as well as the external general public, who want to expand their Cloud, Data and AI skills and are at least 18 years old may apply for this “Udacity Technology Scholarship Program.” The prerequisites for each learning path vary and will be explained in the descriptions of the tracks. Applicants should be prepared to invest about 3–5 hours per week during the Challenge Course and about 5–10 hours per week during the Nanodegree programs.

#### What is the program language?

The program language of the Challenge Course and all Udacity Nanodegree programs is English. All Udacity course videos have English subtitles. Subtitles may also be available in other languages, such as Chinese and Portuguese.

#### Where does the program take place?

The program takes place 100% online. Students can work from wherever they want to, as long as they have a working internet connection.



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### What is the structure of this scholarship program?

As the scholarship consists of three different learning paths (Cloud, Data, AI) the participants have to decide for which learning path they would like to apply.

Each learning path consists of two phases:

#### Phase 1: Challenge Course starting November 20, 2019

During the first phase of this scholarship, the student is provided with an access to an introductory Challenge Course for 3.5 months. Applicants should be prepared to invest about 3–5 hours per week during this period. The scholarship recipients participating in this initial phase of the program will be part of a robust student community where they can engage with and receive support from their classmates.

#### Phase 2: Full Nanodegree programs starting March 18, 2020

The top ten percent of participants will receive a scholarship for a full Nanodegree in their chosen subject area. Access to these Nanodegree programs includes expert project reviews, mentorship, and community support. Applicants should be prepared to invest about 5–10 hours per week for the 6 months of the program.

### Prerequisites

Basic understanding of any object-oriented programming languages such as Python or JavaScript; Recommended: familiarity with loop and function writing

No prerequisites, aside from basic computer skills; Recommended: familiarity with SQL, Excel, stats and coding

Basic understanding of Python and data processing libraries such as NumPy and Matplotlib; Recommended: familiarity with linear algebra and calculus

	Phase 1 Challenge Course	Phase 2 Nanodegree Program
	<ul style="list-style-type: none"> <li>Start in November 2019</li> <li>15,000 seats</li> <li>3.5 months, 3–5 hours/week</li> <li>Challenge Badge</li> </ul>	<ul style="list-style-type: none"> <li>Start in March 2020</li> <li>1,600 seats</li> <li>6 months, 5–10 hours/week</li> <li>Nanodegree</li> </ul>
<ul style="list-style-type: none"> <li>Cloud Track</li> </ul>	Introduction to Cloud DevOps	Cloud DevOps Engineer Learn to design and deploy infrastructure as code, build and monitor CI/CD pipelines for different deployment strategies, and deploy scalable microservices using Kubernetes.
<ul style="list-style-type: none"> <li>Data Track</li> </ul>	Introduction to Data Analysis and Programming	Data Analyst Learn to use Python, R, SQL, and Tableau to uncover insights, communicate critical findings, and create data-driven solutions.
<ul style="list-style-type: none"> <li>Artificial Intelligence Track</li> </ul>	Introduction to Deep Learning with PyTorch	Deep Learning Learn to implement neural networks using the deep learning framework PyTorch. Build convolutional networks for image recognition, networks for sequence and image generation, and learn how to deploy models accessible from a website.



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### **When will the results be announced? When do classes start?**

Applications open on September 3, 2019 and close on November 6, 2019. Scholarship recipients will be announced in November 2019 and will start the Challenge Course later that month.

### **Are there specific class hours when students need to be online or can they go through the lessons and study whenever they want?**

After class starts, participants can study on their own schedule as long as they complete the course in the specified time. That is to say, they will have complete access to the course directly in their classroom 24 hours a day. Students have different schedules and will work on their course at different times and on different days. What is important is that students make constant progress each and every week and get through all the content before the end of the course.

### **What are the technical requirements for participating in this program?**

Udacity's full technical requirements are listed here:

<https://www.udacity.com/tech-requirements>



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### Cloud Track – Applications for Online-based IT Infrastructures

#### What is Cloud Computing?

Cloud Computing is the delivery of computing services – servers, storage, databases, networking, software, analytics, intelligence and more – over the Internet (the “Cloud”) to offer faster innovation, flexible resources, and economies of scale. Some examples include:

- Elastic resources: Scale up or down quickly and easily to meet changing demand
- Metered services: Pay only for what you use
- Self-service: Find all the IT resources you need, with self-service access

#### Who needs Cloud Computing capabilities?

Cloud Computing can help organizations create business value for long-term viability and sustainability by providing flexibility and versatility. IT features of Cloud Computing lead to measurable increase in business value on both dimensions of performance benefit and collaboration benefit through Cloud Computing capability.

**Target group:** Professionals who can benefit particularly from building their Cloud skills include developers or IT Ops managers interested in automating IT infrastructure, building software delivery pipelines, and deploying and managing infrastructure.

#### What are typical job duties?

DevOps engineers optimize, automate, and monitor development pipelines. They focus on ensuring that products and services are delivered smoothly and at scale by building and optimizing Cloud architecture and configuration.

#### What is the “Introduction to Cloud DevOps” Challenge Course?

The “Introduction to Cloud DevOps” Challenge Course is a 3.5-month standalone course in which students gain an introduction to Cloud DevOps and get hands-on experience deploying infrastructure using code. This Challenge Course is mandatory for scholarship students who wish to qualify for the full Nanodegree program, and cannot be skipped.

**Time investment:** 3.5 months, about 3–5 hours per week

**Prerequisites:** To succeed in this course, students should have a basic understanding of any object-oriented programming languages such as Python or JavaScript. Students should be comfortable with writing loops and functions.



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### What is the “Cloud DevOps Engineer” Nanodegree program?

In the “Cloud DevOps Engineer” Nanodegree program, students learn to design and deploy infrastructure as code, build and monitor CI/CD pipelines for different deployment strategies, and deploy scalable microservices using Kubernetes. At the end of the program, learners get to test their new skills by working on a capstone project.

**Time investment:** 6 months, about 5–10 hours per week

**Prerequisites:** Students should be familiar with the basics of programming in an object-oriented language and be comfortable with writing loops and functions, as well as with the Linux Command Line.

Detailed information about the program is available here:

<https://eu.udacity.com/course/cloud-dev-ops-nanodegree--nd9991>

### How can candidates prepare themselves for the Cloud track until the Challenge Course starts in November?

For candidates who would like to prepare themselves for the Cloud track and are new to Python, the free Udacity course “Introduction to Python Programming” provides a good foundational intro.

Detailed information about the program is available here:

<https://www.udacity.com/course/introduction-to-python--ud1110>



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### Data Track – Applications for the Analysis and Interpretation of Large Volumes of Data

#### What is Data Science?

Data Science is an interdisciplinary field that brings together tools, processes, and systems to extract insights from data. It involves concepts from a variety of fields, ranging from mathematics/statistics to computer science and programming, to machine learning, through to visualization and presentation. At its core, Data Science involves using automated methods to analyze massive amounts of data and to extract knowledge from them.

#### Who needs Data Science capabilities?

Data is everywhere. The amount of data we create is going to increase exponentially in the years ahead. The ability to analyze this data and derive the right business decisions will be crucial for competitive advantages in the future. Everyone will need to have some level of comfort with data, and some ability to distill insights related to their business or role. Executives, managers, marketers, analysts ... almost everyone will be surrounded by data in their work. Data Science brings together a foundation in statistics, the technology to analyze data, and the business strategy to ask the right questions and form insights from data. Depending on their role and strengths, individuals may focus on different components of Data Science, but they will undoubtedly benefit from learning more about it.

**Target group:** Professionals who can benefit particularly from building their Data Science skills include Finance, Analytics, Business Ops Specialists, and Product Managers with some data experience, especially if they are eager to learn to code in Python and start a career in Data Science.

#### What are typical job duties?

The skills and knowledge of a Data Scientist are required in a variety of roles. Here are a few things Data Scientists will likely be doing:

- Collecting large amounts of unsorted data and transforming it into a more usable format
- Solving business-related problems using data-driven techniques
- Working with a variety of programming languages, including SAS, R and Python
- Communicating and collaborating with both IT and business
- Looking for order and patterns in data, as well as spotting trends that can help a business's bottom line





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### What is the “Introduction to Data Analysis and Programming” Challenge Course?

The “Introduction to Data Analysis and Programming” Challenge Course is a 3.5-month standalone course in which students will gain an introduction to descriptive statistics and will learn the programming fundamentals required for a career in Data Science. By the end of the program, students will be able to use Python and SQL. These foundational Data Science programming tools allow users to quickly and efficiently perform data analysis workflows. This Challenge Course is mandatory for scholarship students who wish to qualify for the full Nanodegree program, and cannot be skipped. This course was also part of the “Udacity Data Science Scholarship Program” in 2018. However, it is a good refresher for those who participated in the Data Science Challenge Course 2018 and in addition an excellent preparation for the Data Analyst Nanodegree.

**Time investment:** 3.5 months, about 3–5 hours per week

**Prerequisites:** There are no prerequisites for this program, aside from basic computer skills, though some knowledge of SQL, Excel, stats and coding is helpful.

### What is the Nanodegree program “Data Analyst”?

This program is specifically designed to prepare participants for a career in Data Science. Data Analysts are responsible for obtaining, analyzing, and effectively reporting on data insights ranging from business metrics to user behavior and product performance. Students learn to use Python, R, SQL, and Tableau to uncover insights, communicate critical findings, and create data-driven solutions.

**Time investment:** 6 months, about 5–10 hours per week

**Prerequisites:** In order to succeed in this program, we recommend having experience working with data in Python and SQL. This includes Python standard libraries and working with data in Pandas and NumPy.

Detailed information about the program is available here:

<https://www.udacity.com/course/data-analyst-nanodegree--nd002>



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### Artificial Intelligence Track – Applications Related to Machine Learning and Intelligent Algorithms

#### What is Artificial Intelligence?

Artificial Intelligence (AI) is one of the fastest-growing and most transformational technologies of our time, with 2.3 million new jobs opening up by 2020. Artificial Intelligence is the simulation of intelligent, human-like processes by machines. The applications for it are nearly limitless and the industry is growing fast. Some of the activities computers with Artificial Intelligence are designed for include: Speech recognition, image recognition, and self-driving cars.

#### Who needs Artificial Intelligence capabilities?

The demand for AI specialists has never been greater, and top companies across all industries are competing for AI talent. Some examples of industries using AI today are Finance, Consumer Goods, Transportation, Healthcare, Legal, and Agriculture.

**Target Group:** Individuals who are experienced with data and programming and are interested in the fields of AI and machine learning.

#### What are typical job duties?

- Data modelling and evaluation using probability and statistics combined with programming
- Build and train machine learning models to solve business case needs
- Software engineering

#### What is the “Introduction to Deep Learning with PyTorch” Challenge Course?

The “Introduction to Deep Learning with PyTorch” Challenge Course is a 3.5-month standalone course in which students will learn the basics of deep learning, and build their own deep neural networks using PyTorch, an open-sourced machine learning library for Python. By the end of the course, students will be able to use these skills on their own personal projects. This Challenge Course is mandatory for scholarship students who wish to qualify for the full Nanodegree program, and cannot be skipped.

**Time investment:** 3.5 months, about 3–5 hours per week

**Prerequisites:** To succeed in this course, students need to be comfortable with Python and data processing libraries such as NumPy and Matplotlib. Basic knowledge of linear algebra and calculus is recommended, but is not required to complete the exercises.



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### What is the “Deep Learning” Nanodegree program?

The “Deep Learning” Nanodegree program offers participants a solid introduction to the world of Artificial Intelligence. In this program, participants master fundamentals that will enable them to go further in the field, launch or advance a career, and join the next generation of deep learning talent that will help define a beneficial, new AI-powered future for the world. Participants will study cutting-edge topics such as neural networks, convolutional neural networks, recurrent neural networks, generative adversarial networks, and network deployment, and build projects in PyTorch and NumPy. For anyone interested in this transformational technology, this program is an ideal point of entry.

**Time investment:** 6 months, about 5–10 hours per week

**Prerequisites:** In order to succeed in this program, we recommend having intermediate experience with Python or at least 40 hours of programming experience using libraries like NumPy and Pandas, and basic knowledge of probability will be helpful. You’ll also need to be familiar with calculus (multivariable derivatives) and linear algebra (matrix multiplication).

Detailed information about the program is available here:

<https://eu.udacity.com/course/deep-learning-nanodegree--nd101>

### How can candidates prepare themselves for the Artificial Intelligence track until the Challenge Course starts in November?

The free Udacity course “Intro to Data Analysis” is a good idea for candidates who are interested in the Artificial Intelligence track and already know Python but are unfamiliar with Numpy, Pandas, or Matplotlib data-processing libraries. The course is an intro to the data analysis process but also teaches these libraries, and candidates can jump straight to those lessons if they would like to.

Detailed information about the program is available here:

<https://www.udacity.com/course/intro-to-data-analysis--ud170>



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### The Application Process

#### When does the application period start?

Applications open on September 3, 2019.

#### Where can Bertelsmann employees and interested external parties apply for the “Udacity Technology Scholarship Program”?

The application must be made proactively on this respective Udacity landing page (go-live on September 3, 2019):

<https://www.udacity.com/bertelsmann-tech-scholarships>

#### What information is requested in the application?

The application form is structured into four parts:

1. Choice of track (Data, Cloud or AI)
2. Personal data
3. Self-assessment (multiple choice)
4. Motivation letter (max. 150 words)

The full set of application questions will be available at <https://www.udacity.com/bertelsmann-tech-scholarships> once applications are open (go-live on September 3, 2019).

One piece of information Bertelsmann employees should be prepared to provide is their peoplenet ID so that they identify as Bertelsmann employees instead of applicants from the general public.

#### Is it possible to apply for more than one track?

As part of the application, the candidates have to choose **one** track (Cloud, Data or AI) they would like to apply for.

#### What are the criteria for being selected as one of the 15,000 Challenge Course recipients?

Udacity will evaluate the scholarship applications with a view to selecting recipients who possess:

- Diversity of perspective and experience
- Goal orientation, desire to make an impact
- Demonstrated determination and grit
- Willingness to dedicate sufficient time to scholarship
- Prerequisite knowledge where relevant



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### What do students receive when they finish the Challenge Course?

Every student will receive a badge that can be added to their social media profiles (e.g. LinkedIn, Xing). Udacity will provide a 10% discount on a regular Nanodegree program to Challenge Course participants who complete the Challenge Course but are not selected for the follow-on full Nanodegree program.

### What are the criteria for being one of the top 10% and hence a recipient of a full Nanodegree program?

Of the 15,000 original scholarship recipients, the top 10% will be selected for the follow-on Nanodegree program based on:

1. Successful completion of lessons and quizzes in the Challenge Course
2. Level of participation and support of classmates in the student community
3. Re-assessment of essays from the original scholarship application
4. All the selection criteria used in phase 1



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### Bertelsmann-specific Conditions

#### Legal Issues

##### Who is responsible for the processing of personal data?

Udacity Inc. (“Udacity” in the following) is solely responsible for the execution of the scholarship program and it’s processing of personal data in connection with it. As a data controller and if the scholarship program is offered to participants established in the European Union, Udacity has to comply with the EU General Data Protection Regulation (hereinafter “GDPR”).

##### What personal data is processed?

The scope, nature and purpose of the data processing upon participation in the scholarship program, along with further information on data protection, can be found in the Udacity Privacy Policy:

<https://www.udacity.com/legal/privacy>

Bertelsmann SE & Co. KGaA (“Bertelsmann” in the following) does not transfer any personal data to Udacity except the IP address when the landing page link is used. As a sponsor and partner of the scholarship program, Bertelsmann receives a list of all participants. The legal basis for receiving this is Article 6 Section 1 f GDPR; accounting is the legitimate interest. Access to the list is restricted to a few employees at Bertelsmann University. A transmission within the group of companies does not normally take place.

As part of registration, participants can indicate their peoplenet ID if they are employees of the Bertelsmann Group. If a peoplenet ID is provided, their participation in the scholarship program is added to the learning plan and learning history in the peoplenet employee profile. Indication is optional and voluntary, and the learning plan/learning history is basically only accessible by the employee, their manager, the local HR department, and Bertelsmann University. The legal basis for the transfer is Article 6 Section 1 f GDPR; the legitimate interest is documentation of training and advancement at employee’s request.

##### How is data protection ensured at Udacity?

Bertelsmann has concluded an agreement with Udacity under which Udacity is obliged to comply with GDPR. Udacity is located in the U.S. To safeguard a secure and legal transfer of personal data between the European Union and the U.S., Bertelsmann and Udacity have concluded EU Standard Contractual Clauses (Controller-to-Controller).



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### What rights do participants have in connection with data protection?

As a data subject, participants have a right of access, right to rectification, right to erasure, right to restriction of processing, right to data portability and the right to object. The participants also have the right to lodge a complaint with the applicable data protection authority.

Contact for data protection at Udacity: <https://eu.udacity.com/legal/gdpr-compliance>

Contact for data protection at Bertelsmann: [datenschutz@bertelsmann.de](mailto:datenschutz@bertelsmann.de)

### Who is responsible for the process and execution of the program?

Udacity is solely responsible for all steps.

### What are the terms and conditions?

The full terms and conditions are posted here:

<https://www.udacity.com/legal/terms-of-service>

### Does the time spent on completing a course count as working time?

Participation in the scholarship program is voluntary. Regulations governing working hours are agreed locally with the respective supervisor on an individual basis.

### Costs

#### Who is shouldering the costs?

Bertelsmann pays the costs for all scholarship programs from a central budget.

### peoplenet

#### Is the application page available through peoplenet?

As Udacity is responsible for the application process and the execution of the program, an application through peoplenet is not possible. All employees must use the external Udacity link (go-live on September 3, 2019):

<https://www.udacity.com/bertelsmann-tech-scholarships>



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### Reporting

#### **Will the participation be uploaded to the employee's peoplenet learning plan/learning history?**

Bertelsmann University will assign the courses in each phase (Challenge Course and Nanodegree program) to the learning plan/learning history of all employees who have provided their peoplenet ID in the application process.

### Info and Contact

#### **Who will manage communication with the participants and support them during the scholarship program?**

The Udacity team will provide participants with all necessary information during the scholarship program. This will include everything from announcement emails after Udacity reviews applications, to ongoing student encouragement emails to scholarship recipients, to next step details at the end of each stage, and more. Emails will come from:

[scholarships-support@udacity.com](mailto:scholarships-support@udacity.com) or [support@udacity.com](mailto:support@udacity.com)

#### **Who can be contacted in case of questions?**

For Bertelsmann-specific questions (e.g. working time, peoplenet), please contact:  
[university@bertelsmann.com](mailto:university@bertelsmann.com)

For general questions about the scholarship program and for user support (e.g. application process, timeline), please contact:

[scholarships-support@udacity.com](mailto:scholarships-support@udacity.com)