



Intel

CASE STUDY

Intel partners with
Udacity to close the
Edge AI skills gap



Problem

Closing the Edge AI skills gap in the developer community

The global Edge AI market — driven by growing enterprise workloads on the cloud and fast growth in the number of intelligent applications — is expanding at a compound annual growth rate of 20.3% and predicted to reach \$2.2 billion by 2027.¹

Additionally, more enterprises across industries are using Edge AI — a system that uses machine learning algorithms to process data generated by a hardware device at the local level, without needing an internet connection to process that data — to acquire accurate real-time insights, lower bandwidth costs and ensure quick processing and analysis of IoT sensor data.

“The ingenuity of companies during this COVID-19 crisis is humbling. Industries including public safety and healthcare, for example, are designing and deploying solutions now that leverage AI and computer vision technologies to deliver accurate and real-time insights to help with tracking, testing and treatment. The technology exists and we are inspired by the imagination and scale of the developer community,” said Adam Burns, Vice President and General Manager, Edge AI at Intel, in a Forbes report.

Though the Edge AI market is growing at a rapid pace, today’s existing pool of skilled workers isn’t big enough to meet the current demand for talent.

[1. Global Edge AI Software Market Size](#)

“The impact of AI applications at the Edge is demonstrating significant value and creativity across a broad range of use cases.”

Adam Burns

VICE PRESIDENT AND GENERAL MANAGER,
EDGE AI AT INTEL

Goal

Preparing the workforce to meet the increasing demand for Edge computing skills

Intel recognized that it was imperative to close this skills gap in Edge computing to build a workforce that will keep them at the forefront of this technology. To achieve their objective, Intel focused on:



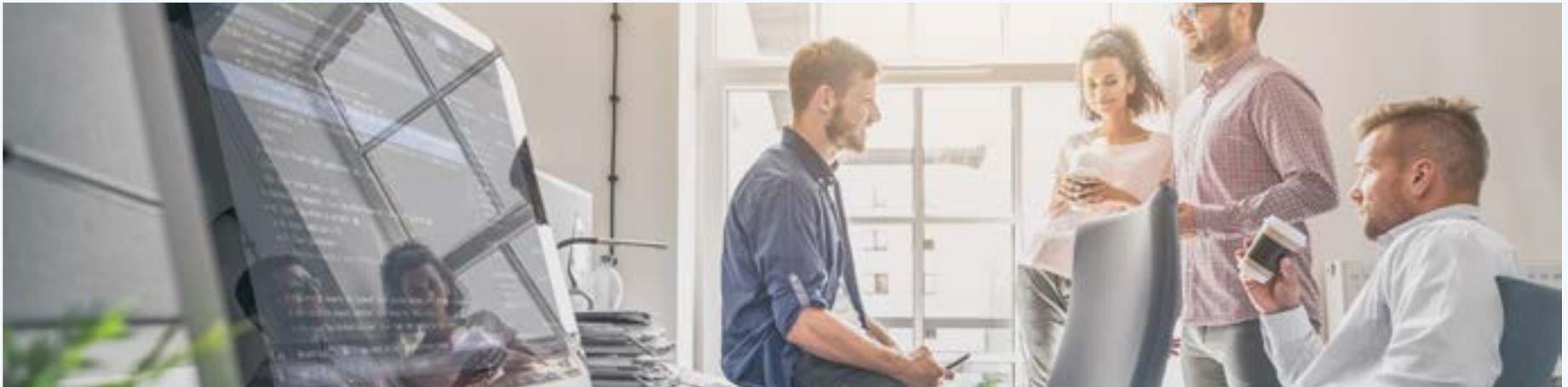
Empowering professional developers to accelerate development and deployment of high-performance computer vision and deep learning solutions.



Building developer proficiency using the Intel OpenVINO™ toolkit that allows deployment of pre-trained deep learning models through a high-level C++ or Python inference engine API integrated with application logic.



Enabling developers to maximize application performance across a range of heterogeneous Intel architectures to deliver fast, efficient deep learning workloads.



Solution

Bridging the Edge AI skills gap by upskilling developers through Udacity scholarships

In order to equip developers with Edge AI skills, Intel partnered with Udacity to launch the Intel Edge AI Scholarship program with Udacity in 2019. The scholarship program consisted of two phases:



Phase I

In this 13-week challenge course, learners participated in a robust community experience supported by Udacity mentors and a dedicated community manager. Udacity, in collaboration with Intel, then selected learners to move on to Phase II based on successful completion of lessons and quizzes, participation, and support of classmates in the student community.

Phase II

Top students from Phase I earned a scholarship to the Intel Edge AI for IoT Developers Nanodegree program. In addition to the world-class curriculum, learners received access to a groundbreaking classroom experience, industry-leading instructors, practitioner-level projects along with project reviews and a full suite of career services.

The Results

Upskilling students worldwide on building and deploying AI models at the Edge

The Intel Edge AI Scholarship received **28,931 applications** from students all around the world, and **16,876 applications** were selected for the 13-week foundational challenge course. Of those, **4,358 learners** completed the course within the required timeframe and were considered for the Phase II of the scholarship. Of the **855 students** admitted to the Intel Edge AI Nanodegree program, **252 graduated**, yielding a **completion rate of 29%**.

Through the scholarship, students were able to:

Stay at the cutting-edge of AI technology by gaining practical skills for deploying Edge AI.

Learn how to use the Intel Distribution of OpenVINO™ toolkit to deploy computer vision capabilities inside a range of Edge applications.

Join a community of peers at the forefront of the next big advancement in AI technology.

90% of students gave the Intel Edge AI scholarship a satisfaction rating of 8 out of 10

93% of students gave the scholarship a “likely to recommend” rating of 8 out of 10

“Historically, students and developers have learned how to build and deploy deep learning models for the cloud,” said Adam Burns in a Udacity post.

“With Udacity, we are training AI developers to go where the data is generated in the physical world: the Edge. Optimizing direct deployment of models on Edge devices requires knowledge of unique constraints like power, network bandwidth and latency, varying compute architectures and more. The skills this course delivers will allow developers and companies that hire them to implement learnings on real-world applications across a variety of fields.”

“My artificial intelligence elective in university was more focused on theory and didn’t give me hands-on experiences, but this scholarship allowed me to get my hands dirty, code my own projects and gain a more comprehensive understanding of AI. During my recruiting journey, I talked about the Nanodegree program and the projects I built during the scholarship. I ended up securing four job offers and I’m confident that I can apply the skills I learned in my new job.”



Madhur Dixit
TECHNOLOGY STUDENT

“Despite my formal education in artificial intelligence, I believe I gained 70%, if not more, of my knowledge from Udacity. I secured my current job as a data scientist because a hiring manager saw the projects I’ve done on Github. Every day at work, I work on my projects and think ‘What would I do without Udacity?’ The skills I’ve learned from the Nanodegree program have absolutely prepared me for the industry. I’m 100% a better professional because of Udacity.”



Anna Porubova
DATA SCIENTIST

“The technical skills I learned gave me so much confidence and made me realize my potential, so I started applying for new jobs. I learned so much more than just technical skills. I learned soft skills like collaborating with other engineers, building things together and delivering on my tasks. My scholarship experience later helped me to secure my current job as a Front End Developer.”



Ileriayo Adebisi
FRONT END DEVELOPER