

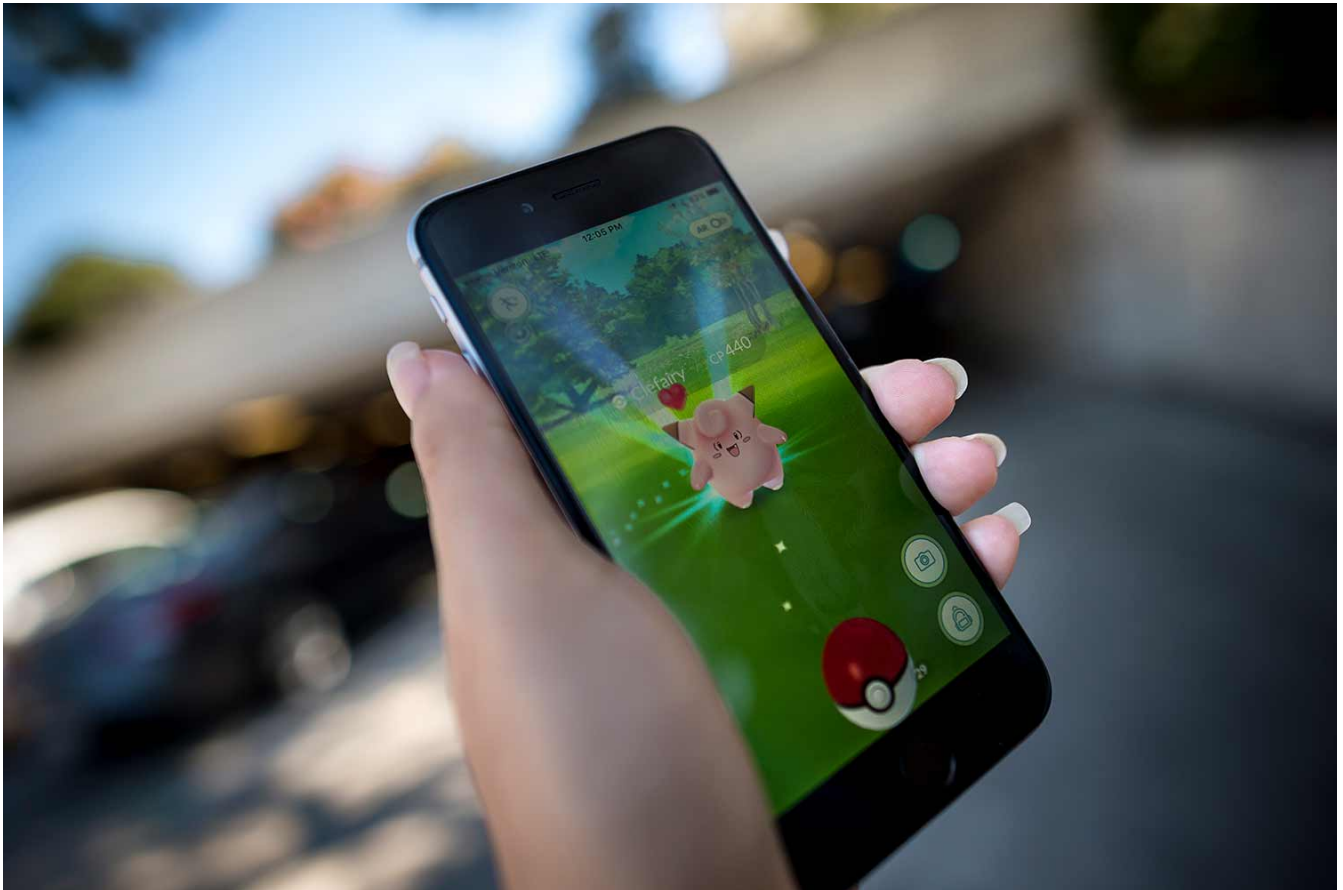
UC San Diego

# UC San Diego News Center

---

By Ioana Patringenaru

Oct 20, 2016



*The lead engineer behind Pokémon GO is a UC San Diego alumnus. Photo by Erik Jepsen/UC San Diego Publications*

## Lead Engineer for Pokémon GO Nabbed Game-building Skills at UC San Diego

Next time you see someone playing Pokémon GO, the popular mobile-phone based game, keep this in mind: an engineer who graduated from UC San Diego leads the game's technical team.

Ed Wu, senior product manager at Niantic, the company that makes Pokémon GO, earned a bachelor's degree from the Jacobs School of Engineering at UC San Diego in 2004. What he learned here is the basis of his success as an engineer, he said during a talk on campus Oct. 13.

"I learned the core algorithms, the core fundamentals here," Wu said. "There is no substitute for that."

Wu gave an overview of all the engineering and troubleshooting that has to happen for users to catch Pokémon, get supplies, and battle in gyms on their smartphones, at any time and in any place from the United States, to France, to Australia.

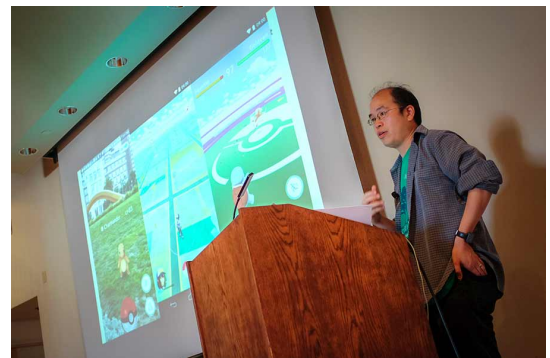
“The key element is overlaying a single, consistent reality over the real world,” Wu said.

This is all the more challenging because the game has been downloaded by more than 500 million people. Making Pokémon GO work for even a small fraction of these users is no small feat. Wu and his team spent most of July 2016 in a sleepless state while they were launching the game around the world. Demand was 50 times more than Niantic projected.

But Pokémon GO is more than just a game, Wu said. “It’s about going outside, going on walks and meeting people in the real world,” he said. The game requires players to walk around and hit up designed spots, called Pokéstops, to get supplies. Players need to physically be near the gym where they want to do battle. Players have logged more than 4.6 billion kilometers (about 2.8 billion miles) between the game’s launch in July and August of this year—that’s half the distance between Earth and Pluto.

Niantic also recently introduced a feature that allows players to get rewards to power up and evolve Pokémon for every kilometer (about 0.6 miles) they walk with their favorite Pokémon. Wu’s walking buddy is Psyduck, which looks like a cross between a yellow duck and a platypus, walks upright and has psychic powers.

During the Oct. 13 talk, Wu recalled how he tried his hand at developing a multiplayer game for the first time in CSE 125, a computer science class taught by UC San Diego computer science professor Geoff Voelker. He and the rest of a student team created a real-time tactical combat game they called “Geteilte Stadt,” German for “a city divided.” During the class, he learned how to collaborate and work with others on complex technical problems, he said. He learned how to code, by himself and with others, and how to resolve disagreements around technical issues. “It was invaluable,” he said. Wu wore a tux during the class’ final presentations, when all teams demo their games.



*Ed Wu, who earned a bachelor's in computer engineering in 2004, gave a talk on campus Oct. 13 as part of an event for the Center for Networked Systems.*

Wu was a Jacobs Scholar as an undergraduate at UC San Diego—a select group chosen for their academic achievements, leadership potential and commitment to community service. Jacobs Scholars receive full tuition and living expenses, as well invitations to cultural and other social events hosted by Joan and Irwin Jacobs, and access to a network of current and former Jacobs Scholars.

Voelker and Wu kept in touch on and off since 2004. The computer science professor invited Wu to speak on campus as part of a research review for the Center for Networked Systems at UC San Diego.

“Ed is an example for all our students to show that what they’re learning prepares you to go out into the world and make a difference,” Voelker said after the talk. “The world is now a different place because of Pokémon GO.”

After graduating from UC San Diego, Wu earned a master’s in international policy studies and a Ph.D. in physics from Stanford University. He worked at the RAND Corporation and then joined Google as a staff software engineer. At Google, he worked at Niantic Labs, which was then an autonomous unit within the company. There, he helped launch Ingress, the massive mobile augmented reality game that preceded Pokémon GO. Fun fact: most of the Pokéstops and gyms in Pokémon GO are based on Ingress portals.

Wu has been a senior product manager and the technical lead and engineering manager for Pokémon GO at Niantic since it spun off from Google in October 2015. He is based in Seattle, Wash. He’s in the process of earning an MBA from the Hass School of Business at the UC Berkeley.

Keep up with campus news by subscribing to *This Week @ UC San Diego*