

Ilia Bautista-Adames Selected for GEM Ph.D. Fellowship by Intel

Ilia Bautista-Adames, doctoral candidate in the Department of Electrical Engineering, is the recipient of a 2020-2021 [National GEM Consortium](#) PhD fellowship. Ilia will receive a stipend of \$20,000 sponsored by Intel.

As a member of the [Nano Computing Research Group \(NCRG\)](#), Ilia is advised by Sanjukta Bhanja, Professor in the Department of Electrical Engineering and Associate Dean for Academic and Student Affairs, and his co-advisor is Sudeep Sarkar, Professor and Chair in the Department of Computer Science and Engineering. Ilia's research concentration includes emerging technology, CMOS-VLSI modelling for neuromorphic computing and deep learning. For his dissertation research, he is modeling an in-memory HTM through Verilog to simulate novel neuromorphic devices storing the activity, and synaptic weights of multiple nodes which will identify unique patterns in a sequence through online learning. He is studying hardware modules to speed up processing. Recently, Ilia published a journal paper with his advisors.

Ilia's award represents the third consecutive year he has been recognized by the Intel Scholars Program based upon his exemplary graduate research and leadership activities at USF. Ilia was supported as a [Great Minds in Stem \(GMiS\) Scholar](#) in 2018-2019 and 2019-2020 by Intel. During summer 2020, he also participated in an [internship with Intel's Silicon Engineering Group](#) in Austin, Texas. "I am very grateful for the financial support and industry experience provided by Intel," Ilia said. "With the skills learned during the internship, I am streamlining my current research methods to run faster simulations and validate more results."

The National GEM Consortium is a network of Fortune 500 corporations, national laboratories, and top research institutions (including USF) that identifies and recruits more than 1,000 undergraduate students, graduate students, and working professionals for admission into advanced degree programs at the nation's elite universities. Founded in 1976 at the University of Notre Dame, the GEM Consortium seeks to enhance the value of the nation's human capital by increasing the participation of under-represented groups at the master's and doctoral levels in engineering and science.

In addition to the GEM Fellowship and GMiS awards, Ilia's graduate research has been supported by the Florida Education Fund's McKnight Doctoral Dissertation Fellowship, Alfred P. Sloan Foundation University Center of Exemplary Mentoring (UCEM), and NSF Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP) Bridge to the Doctorate Activity, and his advisor's [NSF grant](#) from the Software and Hardware Foundations (SHF) program. As a participant in the NSF LSAMP and Ronald McNair Scholar programs at Binghamton University, Ilia received his B.S. and M.S. in Electrical and Computer Engineering.

Apart from his graduate research, Ilia has been a student leader with recent service as both Chair and Vice Chair of the USF IEEE Student Chapter, Vice President of Initiates & Graduate Chair of the USF Tau Beta Pi Engineering Honor Society, and Graduate Ambassador for the USF SHPE Student Chapter.

He plans to graduate in December 2021 and hopes to eventually lead a research team within industry or academia to work on deep learning and brain-inspiring projects. Ilia strongly believes in the power of mentorship and plans to continue advising students after graduation by following in the footsteps of his mentors - Dr. Jayita Das, a Senior Technology and Design Integration Engineer at Intel and USF EE Ph.D. graduate, and Dr. Bhanja. He is very thankful to his mentors, colleagues, and family, who always provide support while challenging him to become a better researcher.