

Glendale Community College's Robotics Academy Inaugural Capstone Team Reflections

Richard Ohanian, Adjunct Engineering Faculty at GCC

GCC Robotics Academy Students: Ernest Hovhannisyan, Sung Hoon Kim, Marek Litomisky, Roman Zograbian

Abstract:

Students need educational experiences that capture their attention, concretize connections between theory and practice, and foster development of the information literacy skills demanded in today's workplace. Glendale Community College has developed a robotics academy designed specifically to provide students with such experiences (glendale.edu/robotics). The culminating segment of the academy is a two-semester capstone course that has the dynamic of an engineering startup. It allows students to work in functional teams to design and build a complex project requiring integration of multiple subsystems. The project engages students in intense research, organized teamwork, robust written and oral communication, and clear, thorough documentation. According to their areas of expertise, the instructors of this team-taught course serve as mentors to the teams providing targeted knowledge, helping students solve problems, and keeping the teams moving forward with their project. This talk will discuss insights from the inaugural capstone team as they worked to build a 3D printer and a robotic arm.

Biographies:

Richard Ohanian (adjunct faculty, mentor) holds a BS in Applied Physics from Azad University, Tehran, Iran, and a BS and MS in Electrical and Computer Engineering from the California Institute of Technology (Caltech). He worked at Axiom Microdevices as a RFIC designer and helped develop the world's first CMOS power amplifier meeting 3GPP standards for GSM/GPRS mobile phones. In 2010 Richard joined the Flight Communications section at JPL as a RF/Microwave engineer where he has worked on electronics hardware for various flight and non-flight projects including Mars Science Laboratory, Mercury Ion Deep Space Clock, and FINDER. In 1998, he published a physics book for high school students in Iran. In 2004 he founded ArmEngine to promote entrepreneurship among Armenian engineers. As adjunct faculty at Glendale Community College, Richard has helped in establishing GCC's Robotics Academy where he has developed and is currently teaching courses in Electronics and Robotics.

Ernest Hovhannisyan has always been interested in how things work and is studying engineering to further those interests. In winter 2015, he will be transfer to California State University, Los Angeles to pursue a baccalaureate degree in Electrical Engineering.

Sung Hoon Kim is currently a student at Glendale Community College pursuing a major in Computer Science/Engineering. He plans to transfer in fall of 2015 to earn a baccalaureate degree and eventually a master's degree. He would like to work in the software industry in companies such as JPL or Google. With interest in software coding, he joined the Robotics Academy Capstone Team and through his participation in the team, he has learned the value of teamwork, communication, and expertise in his field while working on a complex robotic arm and 3D printer.

Marek Litomisky is a current Glendale Community College student. His primary areas of interest are software and robotics. He has been an active member in robotics clubs and teams from high school onward, always looking for interesting new applications of robotics.

Roman Zograbian currently attends Glendale Community College and is pursuing a career in Mechanical Engineering. His areas of interest are helicopter flight mechanics and UAV design. He aims to transfers to Cal Poly for his Mechanical Engineering degree.