Rollen S. D'Souza

rs2dsouz@uwaterloo.ca • github.com/rollends

Publications

V. Joukov, R. D'Souza and D. Kulić, *Human pose estimation from imperfect sensor data via the Extended Kalman Filter*, International Symposium on Experimental Robotics, 2016. [Presented, In Press]

Academic Work Experience

Teaching Assistant 2016/09—2016/12

Assisted students in the first year SE101 course. Managed a weekly 2-hour lab section and marked weekly quiz submissions as well as a final course project. Engaged with students through Piazza and office hours.

Undergraduate Research Assistant 2016/05—2016/08

Supervised by Prof. Dana Kulić.

Undergraduate Research Assistant 2015/01—2015/04

Implemented real-time inverse kinematics algorithm for human motion capture data. Supervised by Prof. Dana Kulić.

Industry Work Experience

Medical Software Developer Co-op 2015/09—2015/12

Sunnybrook Health Sciences Centre

C++ Linux and Windows Application development contributing to the Vurtigo image-guidance visualization software for cardiac interventions.

Software Development Engineer Co-op 2014/05—2014/08

The Coalition Studio, Microsoft

Created tools to support design and development workflows in video games. Wrote rendering shaders and created a background loader for the Unreal Game Engine. Contributed to *Gears of War 3: Ultimate Edition* and *Gears of War 4* Xbox One video games.

Software Development Engineer Co-op 2013/09—2013/12

The Coalition Studio (formerly known as Black Tusk), Microsoft

Developed tools to report on runtime video game performance.

Multimedia Software Developer 2012/05—2012/08

University of Waterloo

Developed video conferencing software with an editable whiteboard using a Flash front-end and a Java EE back-end.

Honours and Awards

2016 NSERC Undergraduate Student Research Assistantship (USRA)
2016 General Motors (GM) Innovation Award
2015 NSERC Undergraduate Student Research Assistantship (USRA)
2014 International Genetically Engineered Machine (iGEM) Competition — Best Model
2011 University of Waterloo President's Scholarship

Activities and Projects

Project: Real Time Operating System 2016/01—2016/04
CS452, University of Waterloo
Implemented (hard) real time operating system in C, from the ground up, for the purpose of autonomously managing trains on a physical track.

Math Modeller 2015/01—2015/12
International Genetically Engineered Machine (iGEM) Competition - Team Waterloo
Developed and analyzed mathematical models of the CRISPR-mRNA interference mechanism alongside interdisciplinary team of mathematics, physics, engineering and biology undergraduate students. Main contribution consisted of performing global sensitivity analysis.

Volunteer First Responder 2015/01—2015/12
Campus Response Team, FEDS
Provided first aid services at student events and the student activity complex. Certified Standard First Aid/CPR-HCP.

Education

MASc ***(Pursuing Actively Full-Time)*** Expected 2019/08
University of Waterloo
Current Student supervised by Prof. Christopher Nielsen.

BSE 2017/07
University of Waterloo
Honours Software Engineering, Joint Honours Applied Mathematics