Belal M. K. Said

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Education

Rutgers University-New Brunswick **9/2015 - 5/2019**
— B.E. in Mechanical Engineering & B.S. in Computer Science
GPA: 3.83/4.00
Relevant Coursework: Data Structures, Computer Architecture, Discrete Structures, Probability Theory, Artificial Intelligence, Dynamics

Skills

Advanced: C/C++, Java, Matlab, C#
Proficient: Javascript, PHP, Python, HTML, CSS
Technologies: Unity, Node.Js, AWS, React
Other: Solidworks, Simulink, Access

Experience

Colgate-Palmolive - Software Engineering Intern - Piscataway, NJ **6/2017 - Present**
— Develop APIs for standardized data access

AllState Insurance - Intern - Edison, NJ **6/2014 - 9/2014**
— Increased customer service productivity by 25% using an algorithm that determines which customers are more likely to switch insurance
— The algorithm would use a custom score to sort potential customers and optimize with feedback from customer service

Research

SteerSuite under *Professor Mubbasir Kapadia* **- New Brunswick, NJ** **6/2016 - 8/2016**
— Reduced simulation time by 17% by implementing bounding boxes and Dynamic Bounding Volume Hierarchies
— Developed an algorithm that uses directed graphs to model human behavior in rooms
— Designed a C# plugin for Autodesk Revit to incorporate SteerSuite and make it user friendly

Mechatronics Lab under *Professor Jingang Yi* **- New Brunswick, NJ** **10/2015 - 3/2016**
— Worked with Engineering graduate student to build and design quadcopters
— Programmed quadcopters in C++ and PX4 Autopilot to perform complex maneuvers
— The aim of the project is to be able to coordinate between quadcopters and rooms sensors to ease indoor navigation

Extracurriculars

IEEE - PacBot Team Captain **10/2015 - Present**
— Created an algorithm for the bot to navigate a maze and avoid the ghosts. The robot was designed from scratch with a custom PCB circuit and a 3D printed body. The code was optimized in C++ to run on a teensyduino
— Won first place at Harvard PacBot Competition 2017

International Sanitation Organization - Executive Board Member **7/2013 - Present**
— Helped fundraise for ISO, a legal 501c3 certified non-governmental organization, which has collaborated with UN recognized organizations to bring fresh water to thousands of people in Africa. More information can be found here: www.internationalsanitation.org

Projects

Internet of Things **1/2014 - Present**
— Connected home electronic devices such as lamps, fridges, and microwaves to the internet through an electrical IMP
— Created a RESTful API to pipeline communication between computer devices and the appliances
— Won Internet of Things award from Microsoft and Intel

WAEC **6/2016 - 9/2016**
— WAEC is a startup that works on creating profitable automated drone delivery systems
— Programmed the entire system for air highways and programmed the drones to move in them using a GPS System
— The highway system was designed using 3D spline parameterization which the drones follow using PID systems

C# Raytracer **7/2012 - 8/2014**
— Developed a raytracer from scratch based on the book *Physically Based Rendering* by Matt Pharr
— The goal of the project was to test new raytracing and parallel computing techniques such as photon mapping and distributed computing