

# Belal M. K. Said



belalmksaid



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## Education

### Rutgers University-New Brunswick

— B.E. in Mechanical Engineering & B.S. in Computer Science  
GPA: 3.83/4.00

09/2015 - 05/2019

**Relevant Coursework:** Data Structures, Computer Architecture, Discrete Structures, Probability Theory, Artificial Intelligence, Dynamics, Circuits

## Skills

**Advanced:** C/C++, Java, Javascript, C#, Matlab  
**Proficient:** PHP, Python, HTML, CSS, ABAP

**Technologies:** OpenCV, Unity, Node.js, AWS, React, SAP  
**Other:** Solidworks, Simulink, ANSYS

## Experience

### Colgate-Palmolive - Software Engineering Intern - Piscataway, NJ

— Develop APIs for standardized data access

06/2017 - Present

### AllState Insurance - Intern - Edison, NJ

— 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

06/2014 - 09/2014

## Research

### SteerSuite under Professor Mubbasir Kapadia - New Brunswick, NJ

— 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

06/2016 - 08/2016

### Mechatronics Lab under Professor Jingang Yi - New Brunswick, NJ

— 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

10/2015 - 03/2016

## Extracurriculars

### IEEE - PacBot Team Captain

[github.com/belalmksaid/PacBotCode](https://github.com/belalmksaid/PacBotCode)

— 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

10/2015 - Present

### International Sanitation Organization

— 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](http://www.internationalsanitation.org)

07/2013 - Present

## Projects

### Internet of Things

[github.com/belalmksaid/oi](https://github.com/belalmksaid/oi)

— Connected home electronic devices such as lamps, fridge, microwave, and an old minivan 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

01/2014 - Present

### Waec

[github.com/belalmksaid/waec](https://github.com/belalmksaid/waec)

— Designed the codebase for air highways in C++ and programmed the drones to move in them using a GPS-based PID system  
— The highway system uses 3D spline parameterization and relies on the open source Generic Graphics Toolkit Library for math functions

06/2016 - 09/2016

### C# Raytracer

[github.com/belalmksaid/Disque-Raytracer](https://github.com/belalmksaid/Disque-Raytracer)

— Developed a raytracer from scratch using a custom built Math library and Alea GPU  
— Applied parallel computing techniques such as photon mapping and distributed computing, cutting render time by at least 95%

07/2012 - 08/2014

### TrackrAPI

[github.com/ericson/TrackrBot](https://github.com/ericson/TrackrBot)

— Wrote a platform that lets users create custom APIs for dynamic data on a website of the user's choice  
— Won first place at CodeDay NY 2014

07/2014 - 08/2014