

Belal M. K. Said

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Education

Rutgers University-New Brunswick

09/2015 - 05/2019

B.E. in Mechanical Engineering & B.S. in Computer Science

GPA: 3.83/4.00

Major GPA: 3.91/4.00

Relevant Coursework: Data Structures, Computer Architecture, Software Methodology, Discrete Structures, Probability Theory, Artificial Intelligence, Circuits

Technical Skills

- C/C++, Java, Python, C#, Matlab, Javascript, PHP
- HTML/ CSS, SQL, Node.js, MySQL, JQuery, AJAX
- Git, Visual Studio, Eclipse, TesnorFlow, OpenCV
- Linux, Windows, Android

Experience

Colgate-Palmolive - Software Engineering Intern - Piscataway, NJ

06/2017 - Present

- Built and designed OMNIPAL in Node.js, an all-knowing web application that uses natural language to expose HANA
- Extended OMNIPAL using TensorFlow to predict order failures, create status reports, and produce prediction models
- Helped extend Event Management by designing an SQL query to match data from vendors and shipping centers

PRACSYS under Professor Kostas Bekris - Research Assistant - New Brunswick, NJ

06/2017 - Present

- Designed a path planner for Baxter's arm, a multi-jointed robotic arm with seven degrees of freedom, using Ceres to solve the constraint system and then using A* to find the optimal action-path

SteerSuite under Professor Mubbasir Kapadia - Research Assistant - New Brunswick, NJ

06/2016 - 08/2016

- Reduced simulation time by 17% by implementing bounding boxes and Dynamic Bounding Volume Hierarchies in C++
- Developed an algorithm that uses Bayesian networks to model human behavior in rooms
- Designed and coded a C# plugin for Autodesk Revit to incorporate SteerSuite and make it user friendly

Mechatronics Lab under Professor Jingang Yi - Research Assistant - New Brunswick, NJ

10/2015 - 03/2016

- Worked with graduate Engineering student to build and design quadcopters small enough to maneuver indoors
- Programmed quadcopter in C++ and PX4 Autopilot to communicate with room sensors for navigation

AllState Insurance - Data Analysis Intern - Edison, NJ

06/2014 - 09/2014

- Increased productivity by 25% using decision trees in python to determine which customers are likely to switch
- The algorithm uses a custom score to sort potential customers and optimize with feedback from customer service

Projects

Speed Prediction - github.com/belalmksaid/speed_prediction

07/2017 - Present

- Predicted instantaneous speed of a moving car from a live dashcam video within ± 1 mile accuracy by using Farneback optical flow, a deep learning network, and exponential moving average using Matlab

Internet of Things - github.com/belalmksaid/loi

01/2014 - 03/2017

- Connected home electronic devices such as lamps, a fridge, a microwave, and a minivan to the internet using electrical IMPs and mapped them to a Node.js server
- Won Internet of Things award from Microsoft and Intel at PennApps 2014

TrackerAPI - github.com/belalmksaid/TrackerAPI

07/2014 - 08/2014

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

Extracurriculars

IEEE - PacBot Team Captain - github.com/belalmksaid/PacBotCode

10/2015 - Present

- Created an algorithm for the bot to navigate a maze and avoid the ghosts, optimized to run on teensyduino. The robot was designed using a custom PCB circuit and a 3D printed body
- Won first place at Harvard PacBot Competition 2017

International Sanitation Organization - internationalsanitation.org

07/2013 - Present

- Helped found and 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 Ghana