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: 3.9/4.00

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, R, HTML/ CSS, ABAP

Technologies: OpenCV, TensorFlow, CUDA, Unity, Node.Js, AWS
Other: Solidworks, Simulink, ANSYS, V-REP

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 the HANA database
— Extended OMNIPAL using TensorFlow to predict order failures, create status reports, and produce on demand prediction models
— Implemented machine learning models such as Naive Bayes in R to predict employee retention rate

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
— 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

AllState - Data Analysis Intern - Edison, NJ 06/2014 - 09/2014

— Increased customer service productivity by 25% using decision trees to determine which customers are likely to switch insurance
— 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

Internet of Things - github.com/belalmksaid/ioi 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**

Waec - github.com/belalmksaid/waec 06/2016 - 09/2016

— Built the codebase for air highways in C++ and PX4 Autopilot using 3D spline parameterization
— Designed the drone autonomous system using a GPS-based PID system

TrackerAPI - github.com/belalmksaid/TrackerAPI 07/2014 - 08/2014

— 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**

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