

# Belal M. K. Said

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## Education

### Rutgers University-New Brunswick

BSc in Applied Science Eng: Comp Sci

Dean's List (every semester)

GPA: 3.86/4.00

09/2015 - 12/2018

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

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## Technical Skills

**Proficient:** C/C++, Python (numpy, pandas), Java, Javascript (Node.js), C# (ASP.Net, WPF), Matlab. **Familiar:** PHP, Go, Flask, CUDA, SQL (MySQL, MSSQL). **Technologies:** Git, Bash, Linux, Windows, Visual Studio, Eclipse

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## Experience

### AQR Capital - Software Engineer Intern - Greenwich, CT

06/2018 - 08/2018

- Led a successful initiative to automate email analysis and processing for Business Ops
- Implemented an email analyzer system that uses text analysis and Naive Bayes to determine critical client emails
- Built a data consolidator that synchronizes front office and back office trading data using a simple versioning system

### Facebook - Software Engineer Intern - Menlo Park, CA

01/2018 - 03/2018

- Led a small team to automate async migration for Instagram's Node API call stack
- Implemented a python static analyzer that constructs call graphs using AST to perform function call analysis
- Built a python code modifier that uses static analysis data to detect synchronous bottlenecks and migrate them to async
- Helped design Facebook-wide python programming standards and best practices

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

06/2017 - 11/2017

- Built and designed OMNIPAL, an all-knowing web application that uses natural language to expose multiple data APIs
- Built a RESTful API in Node.js to standardize voice command matching using MonogoDB as the NoSQL database
- Designed a library from scratch in javascript that generates simple machine learning models for OMNIPAL

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## Projects

### Pyan4 (Python 3.6)

01/2018 - Present

- A python static analyzer developed while at Instagram based on Pyan3 by David Fraser
- Improved over Pyan3 performance by ~24000% by disabling false positive matching, using hashing for node lookup, and splitting analysis into multiple, parallel processes

### Speed Prediction (Matlab/Caffe) - github.com/belalmksaid/speed\_prediction

07/2017 - 12/2017

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

### PacmanAI Lab (Javascript) - github.com/belalmksaid/PacmanAILab

01/2017 - 08/2017

- Implemented genetic algorithm with simple neural networks to teach an AI how to play pacman in javascript
- Built a simple framework from scratch to emulate multithreaded applications to avoid freezing the browser

### Internet of Things (Javascript/Node.js) - 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 Intel at PennApps 2014

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## Extracurriculars

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

10/2015 - Present

- Lead a small team of engineers to build and design robots that navigate different types of mazes
- Created an algorithm for the bot to navigate a maze and avoid the ghosts, optimized in Assembly to run on teensyduino
- Won first place at Harvard PacBot Competition 2017