Joseph **Biggins**

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Education

University of Iowa | Iowa City, IA   *Aug. 2015 - May 2020*

Computer Science and Engineering, B.S.E.

Big Data/Data Mining/Machine Learning, E.F.A

Courses: Algorithms, Internet of Things, Graph Algorithms and Combinatorial Optimization, Machine Learning, Data Visualization and Data Technologies, Bayesian Statistics, Big Data Analytics, Artificial Intelligence, Web Mining

Work Experience

Mostardi-Platt, LLC | Elmhurst, IL   *May. 2019 - Aug. 2019*

Engineer ll

- Participate in R&D programs through entire lifecycle, from initial inception through production and maintenance phases
- Designed and developed software programs, applications, and tools according to automate processes according to EPA specs
- Designed streaming APIs to automate data aggregation; creating and writing to cloud database
- Run and monitor performance tests on new and existing software to fix mistakes, isolate areas to improve, and general debugging

T.H. Brokerage, LLC | Chicago, IL   *May. 2018 - Aug. 2018*

Options Automation Developer

- Conceptualized valuation strategies, develop and continuously improve upon mathematical models, and help translate algorithms into code
- Implemented and Back tested trading models and signals in an active, live trading environment
- Used a variety of advanced modeling and machine learning techniques: generalized linear models, survival analysis, clustering, time series, tree based algorithms, and neural networks
- Conducted research and statistical analysis to build and refine monetization systems for trading signals

Projects

SoundVillage Music Player

Project Lead & Developer

- Designed cross-platform React-Native application to allow users to natively create, share, collaborate, and play real-time, dynamic playlists.
- Built up-vote and down-vote capabilities; automatically playing the song that had received the most votes next in the queue upon the previous songs completion
- Created full stack application to display current song and playlist on Raspberry Pi 3B+ microcontroller equipped with a LCD with touch capabilities
- Implemented numerous communication protocols, such as SFTP/FTP, Bluetooth, Wifi, DLNA, HTTP, FCM, etc. that stored and pulled critical data to and from Firebase database–complimenting the mobile application.

Home Automation Thermostat

Lead Developer

- Developed a UI for Web and Adafruit GFX touchscreen; providing user controls to customize system configurations for temperature, time, HVAC mode, HVAC status, and programmable set points.
- Implemented full stack solution using Node.js to create our server with Javascript and Jade comprising the client.
- Designed end-to-end noise filter; combining both hardware using capacitors and op-amps coupled software filtering capable of changing behavior based on the hardware's filtering performance