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Karthik Balasubramanian

https://karthikbalasubramanian.github.io

Education

Masters in Information Systems Management, Heinz College, Carnegie Mellon University   **May 2017**

Relevant coursework: Machine Learning (ML), Practical data science, Research in data science, Data structures, Math for ML, Econometrics, Distributed systems, Mobile app development and Database Management.

MOOC: Deep learning for coders by FastAI, Intro to Apache Spark by Edx, Model Thinking by Coursera, Stanford CS231N

Skills

Scripting and querying Languages: Python, Java/J2ee, C++, JavaScript, HTML, SQL, MongoDb.

Tools: MiniTab, Android Studio, Jupyter notebook, Amazon EC2, Stata, Tableau, Excel, Eclipse, IBM Web sphere.

Frameworks: React.Js, Spring, Android, Apache Camel, Apache Hadoop, Apache Spark.

Machine learning/ Scientific programming: Numpy, Scipy, Sci-Kit learn, Pandas, Keras, Theano.

Academic Projects

Demand forecasting Singapore taxi coverage based on public traffic movements   **January 2016-Present**

- Developing a Machine learning model to maximize the supply patterns of taxicabs in Singapore to fill the gaps of city's deterministic public transport network.

Department of Justice's Crime reduction network- New Orleans police dept.(NOPD) **January 2016-Present**

- Working with Director of Analytics at NOPD to develop a data-driven model that improves department's response times for emergency calls and increase the level of community-oriented policing.

Machine Learning and Deep Learning Tutorials   **September 2016- Present**

- Tutorials are published on my website as blogs. Each tutorial focuses on multiple aspects of solving a problem right from baseline to complex model selection followed by parameter tuning, data visualization and result interpretation.

Airbnb price prediction tool   **September 2016- December 2016**

- Created a pure python tool which predicts the price of an Airbnb listing based on its features and locational significance. It also considers competitor pricing and accordingly suggests a price. In addition, it provides information like other nearby Airbnb listing price stats and advertisement suggestions.

- Performed hyper-parameter tuning with selected models and achieved accuracy score of 70% with limited dataset for the city of Pittsburgh.

Hilti Quiz-Train   **August 2015- December 2015**

- Hilti Quiz-Train is a native android application developed for Hilti mobile challenge 2016.

- Developed the backend using Spring Data framework and Synchronous Volley Framework. Responsible for material design philosophy adherence in mobile app. Completed second in the competition which saw a participation of over 120 teams around the world.

Professional Experience

Data Engineering Intern, SingTel DataSpark Analytics, Singapore   **Summer 2016**

- Created an interactive Apache Spark Job configurator tool from the scratch using React.Js and Spring Data framework in an agile environment to auto-write ETL spark job configuration files.

- Reduced job failures by 40%. Exported the tool as a proprietary of DataSpark to its clients with documentation and tutorials.

Assistant Systems Engineer, Tata Consultancy Services, Chennai   **June 2013 – May 2015**

- Held accountable for project estimation, use-case design, development, performance testing and rollout activities of a critical data integration project for a US based retailer.

- Optimized data transformations to facilitate large scale data transfer from client systems to enterprise cloud. Data movement efficiency was 99% which reduced data reconciliation process for the client.

- Actively involved in developing and documenting proof-of-concepts with data transformation and processing frameworks like Apache Camel which was later utilized across the client projects as boilerplates.

- Received Technically excellency award for successfully completing three of the eight major releases in the project.

Publication

- Automated sentiment analysis on online news feeds, Publisher- IRNET GRET International Journal ISSN 2320 – 6632, Vol-1, Iss-2, 2013.