George Mathew

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EDUCATION

NORTH CAROLINA STATE
PhD in Computer Science
Expected May 2019 | Raleigh, NC
Current. GPA: 4.0 / 4.0

MS in Computer Science
Aug 2014 - May 2016 | Raleigh, NC
Current. GPA: 4.0 / 4.0

AMRITA UNIVERSITY
B.Tech in Electronics Engg
Jul 2008 - May 2012 | CBE, India
Cum. GPA: 3.92 / 4.0

FOOTPRINTS

Google Scholar: **tiny.cc/bfn0**
Github: **bigfatnoob**
LinkedIn: **georgevmathew**
Twitter: **@ThatBigFatNoob**
Facebook: **george.mathew.1690**

SKILLS

PROGRAMMING
Pro: Java • JavaScript • HTML • Matlab • MySQL • Python • TensorFlow • Git

Semi-Pro: C++ • Redis • Shell • LaTeX • Clojure • RubyOnRails • ECL • R

Familiar: PHP • Android • Perl • Haskell • C • Julia • .NET • Bison

COURSEWORK
- Advanced Machine Learning
- Automated Software Engineering
- Advanced Algorithms;
- Compilers; DevOps
- Data Guided Business Intelligence
- Object Oriented Design Paradigm
- Database Management Systems
- Spatial & Temporal Data Mining

CERTIFICATIONS
- Stanford
  - Machine Learning → **tiny.cc/bfnC1**
- Princeton
  - Algorithms → **tiny.cc/bfnC2**
- Deeplearning.ai
  - Neural Networks & Deep Learning
    → **tiny.cc/bfnC3**
  - Improving Deep Neural Networks
    → **tiny.cc/bfnC4**
  - Structuring Machine Learning Projects
    → **tiny.cc/bfnC5**
  - Convolutional Neural Networks
    → **tiny.cc/bfnC6**

PUBLICATIONS

Preprints: tiny.cc/gvm
PUBLISHED
- **RE-2017** : George Mathew , Tim Menzies, Neil A. Ernst, John Klein. *"SHORTer" Reasoning About Larger Requirements Models* → tiny.cc/bfn_p3
- **ICSE-2017** : George Mathew , Amritanshu Agrawal, Tim Menzies. *Trends in Topics at SE Conferences: Preliminary Version* → tiny.cc/bfn_p5
- **ISAW-2017** : Neil A. Ernst, John Klein, George Mathew , Tim Menzies. *Using Stakeholder Preferences to Make Better Architecture Decisions* → tiny.cc/bfn_p4
- **ESE-2017** : Tim Menzies, Ye Yang, George Mathew , Barry Boehm, Jairus Hihn *Negative Results for Software Effort Estimation.* → tiny.cc/bfn_p2
- **AAAI-2016** : Jairus Hihn, Leora Juster, James Johnson, Tim Menzies, George Mathew *Improving and Expanding NASA Software Cost Estimation Methods* → goo.gl/QFBffG
- **NASA-2015** : Jairus Hihn, Tim Menzies, George Mathew , James Johnson *NASA Software Cost Estimation Model: An Analogy Based Estimation Method* → tiny.cc/bfn_p1
- **ICCC-2012** : George Mathew , KG Praveen, Pravin P, Sandeep M, Sharanya Ramesh. *Digital Sphygmomanometer* → tiny.cc/bfn_p1

IN PROGRESS
- George Mathew , Tim Menzies. *Trends in Topics In Software Engineering* → tiny.cc/bfn_p6
- George Mathew , Tim Menzies, Jairus Hihn. *Impacts of Bad ESP (Early Size Predictions) on Software Effort Estimation* → tiny.cc/bfn_p7

RESEARCH

REAL AI IN SOFTWARE ENG. (RAISE) guided by Dr. Tim Menzies
Oct 2014 – Present | Raleigh, NC
- Studying trends in SE venues using topic modeling. We identify that SE research can be summarized as 11 topics.
- Published in International Conference on SE 2017(tiny.cc/bfn_p5) and under review in IEEE Transactions on SE(tiny.cc/bfn_p6)
- Part of obtaining funding from NASA-JPL, LexisNexis Risk and SEI-CMU.
- Studying impact of lines of code on Software Development effort. Under review at Journal of Software Sciences.

SOFTWARE ENGINEERING INSTITUTE - CMU (SEI-CMU)
Aug 2015 – Feb 2016
- Optimizing requirements engineering models on i* frameworks using multi objective optimization techniques.
- GUI based tool to process RE models and render flowcharts based on decision priority and optimal configurations.
- Published in IEEE Requirements Eng. Conference 2017(tiny.cc/bfn_p3) and IEEE Software Architecture Workshop 2017(tiny.cc/bfn_p4).

NASA JET PROPULSION LABORATORY
Jan 2015 – May 2015
- S/W Effort Estimation using machine learning on industrial S/W projects.
- Software Quality Prediction for their space programs.
- Published in NASA Cost Symposium 2015(tiny.cc/bfn_p1) and EMSE Journal 2016(tiny.cc/bfn_p2).

EXPERIENCE

LEXISNEXIS | SOFTWARE ENGINEERING INTERN   May 2017 – August 2017 | Raleigh, NC
- Implement Gradient Boosting Trees on Enterprise Computing Language(ECL).
- Parallelize Gradient Boosting algorithms on LexisNexis' HPCC platform to benchmarking close to 500GB of data.
- Develop a common search platform for both legal and academic documents using TensorFlow.
- Top-3 best poster award for the internship.(tiny.cc/bfn_a1)

FACEBOOK | SOFTWARE ENGINEERING INTERN   May 2015 – August 2015 | Menlo Park, CA
- Developed a Java based parsing module for Hive and Presto identifying components of Query.
- Module to migrate between datacenters based on statistics and optimize data migration and time taken.
- Created a Apache Thrift based API to expose service across different languages.
- Developed a React.js and Java based client to aid front end users to use the API.

CROWDCHAT | FULLSTACK SOFTWARE ENGINEER   October 2013 – June 2014 | Hyderabad, India
- Developed crowdchat.net, a hash-tag based chat platform. It was built using the NodeJS Redis stack. Bootstrap, jQuery and client jade were used to develop UI.
- Worked on platform.crowdchat.net, a data analytics platform that helps you connect with people and subscribe to their activities on twitter. Built on the Java MySQL stack and scaled for over 250 GB of analyzed data.
- Notification engine and customized ticker linking posts from different social platforms.
- Database management and automation scripts supporting periodic maintainance scripts.

PAYODA TECHNOLOGIES | SOFTWARE ENGINEER   June 2012 – September 2013 | Coimbatore, India
- Created a REST based module to register a device into AppViewX, which is a software load balancer.
- Developed an aggregation module on mongoDB using map-reduce to aggregate statistics periodically.
- Prototype Adaptor for configuring switches into the AppViewX environment.

PET PROJECTS

Region.io : A bookmark manager to mark your favorite websites and documents via a website or chrome extension. Pages are indexed using **Elasticsearch** , with a **Node.js** based server and **MongoDB** based database. → **region.io**

Octorater : Octorater is a distributed application built to perform text analysis on movie reviews streamed from Rotten Tomatoes to predict the rating of a movie as good or bad. The machine learning was powered by **R** and parallelly deployed via **Apache Trident** . The main objective behind this project was to learn the working of various text analysis methods and select the best out of them to build a predictive model based on the dataset and business requirements. → **tiny.cc/bfn_pp0**

Optima : Optima is a Multi-Objective Optimization framework containing the latest state of the art optimization algorithms. The core business logic is implemented on **Python** , front-end using **Flask** and graphic rendering via **Seaborn** & **MatPlotLib** . Package has been adopted and utilized by two research labs. → **git.io/vFrK1**

Collections : A collection of prominent and efficient datastructures in **Java8** based on **Object Oriented Paradigms** & **Test Driven Development** . It also supports threading and parallel processing. →**git.io/vFrK7**

ACHIEVEMENTS

- Top-3 best poster award in HPCC summit for summer internship at LexisNexis.
- Best Fresher at Payoda Technologies.
- University Silver Medallist & Department Gold Medallist in under-graduation at Amrita School Of Engineering.
- National Gold Medallist in High School Math Olympiad.