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Monjura Afrin Rumi
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github.com/mrumi

EDUCATION

MS, COMPUTER SCIENCE
GEORGE MASON UNIVERSITY (GMU), VA 2017

SOFTWARE ENGINEERING GRADUATE CERTIFICATE
GEORGE MASON UNIVERSITY (GMU), VA 2017

BS, COMPUTER SCIENCE & ENGINEERING (RANKED 10TH OUT OF 120)
BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET), BANGLADESH 2013

TECHNICAL SKILLS

Language: Java, C/C++, C#, Python, R, Matlab, SQL, Lisp.
Databases: Oracle, MySQL, Amazon RDS, MongoDB.
Tools: .NET, Visual Studio, SPARK, Hadoop, Android SDK, EC2, S3.
Web Technology: HTML5, CSS3, JSF, JavaScript, jQuery, JSP, JSON, Struts2, JPA, SOAP, REST, Tiles, AngularJS, Node.JS, D3.

PROFESSIONAL EXPERIENCE

GRADUATE TEACHING ASSISTANT
George Mason University, VA 2014-2017

- Assigned to Department of Computer Science to provide counsel, support, and mentoring to students in the areas of data mining and database development.
- Delivered interactive learning presentations and labs on Python programming.

LECTURER
Ahsanullah University of Science and Technology (AUST), Bangladesh 2013-2014

- Lectured students in Computer Science and Engineering Department.
- Provided supervision and support in Object-Oriented Software Development projects.
- Monitored progress of Database-Oriented projects.
- Planned and led lab classes, instructing and evaluating students in the areas of Assembly and C Programming Languages.

SOFTWARE ENGINEER
REVE Systems, Bangladesh 2013

- Performed full software development lifecycle, ensuring completion of projects on time and in alignment with requirements, specs, and top quality standards.
- Built Android Video Dialer, programming live video compression for Android phone in Linux environment using FFmpeg and x264 library. Designed and documented JNI module use of libraries in Android platform.
- Created GCM Messenger app for Android that uses Google Cloud Messaging feature.

RELEVANT ACADEMIC PROJECTS

Adversarial Image Detection: Created tool to identify adversarial images using adversarial deep learning, ensuring secure use of automated system for skin cancer classification utilizing skin lesion images (Keras and TensorFlow).

TF Clustering Kernel: Designed new kernel to cluster heterogeneous components of Transcription Factor, binding specificity across cell lines (Python and R).

Topic Modeling: Created model using Latent Dirilect Allocation to find recurring themes from a text dataset and applied that model on time series data to search for commonly occurred pattern (Python).

Dynamic Time Warping: Implemented and optimized time series data classification model using dynamic time warping, introducing lower bounding and early abandoning technique (Matlab).

Hailstorm Pattern: Innovated model for hailstorm pattern definition based on storm event data and predicted hailstorms across various US regions (Python in SPARK).

Movie Recommender: Built movie recommendation system based on user ratings, applying Product of Factor technique and Alternating Least Squares optimization (Python in SPARK).

Online Advertisement: Facilitated evaluation of online ads via Logistics Regression with Stochastic Gradient Descent and L2 Regularization (Python in SPARK).

Voting Prediction: Produced model using artificial neural network (Back Propagation) to determine voter turnout in various US regions (Common Lisp).

Evolutionary Computation: Established evolutionary computation framework for solving symbolic regression and artificial ant problem (Common Lisp).

Breast Cancer Detection: Programmed Adaboost classifier to detect Breast Cancer from phenotypic cancer attributes (Java).

PUBLICATIONS

- **Monjura Afrin**, Asiful Hossain, and Mohammad Eunus Ali. Data Intensive Workflow Scheduling in the Cloud. Workshop on Advances in Data Management, 2013, Dhaka, Bangladesh.
- Sarah Masud*, **Monjura Afrin***, Farhana Murtaza Choudhury*, and Syed Ishtique Ahmed. VizResearch: Linking the Knowledge of People and People with Knowledge. International Conference on Computational Science, 2012, Omaha, Nebraska, USA. [*indicates equal contribution].
- Mahfuza Sharmin, **Monjura Afrin**, and M. Sohel Rahman. Local Search Techniques for Placing Unique Restriction Sites in Synthetic Genomes. In the proceedings of Bioinformatics and Computational Biology, March 12-16, 2012, Las Vegas, Nevada, USA.

HONORS AND AWARDS

CRA-W Grad Cohort Travel Award. (2015)
George Mason Graduate Award and Teaching Assistantship, GMU. (Fall 2014 - Fall 2017)
Championship Award, Inter University Software Project Contest, BUET. (2011)
University Dean's Scholarship, BUET. (Session 2009 - 2010, 2011 – 2012)
University Merit Scholarship, BUET. (Session 2008-2013)