Mihee Lee

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RESEARCH INTEREST

Representation Learning, Domain Adaptation, Bayesian Inference, Meta Learning, Personalized Deep Learning, Computer Vision

EDUCATION

Rutgers University, NJ, US
Ph.D. Student in Computer Science (September 2017 - Present)
- Advisor: Prof. Vladimir Pavlovic

EWHA Womans University, Seoul, South Korea
Master of Science, Numerical Analysis (September 2011 - August 2013)
- Thesis title: Numerical Study on Further Relaxations of the Moment Cone Relaxation for Polynomial Optimization Problems
- Advisor: Prof. Sunyoung Kim

Bachelor of Science, Mathematics, Economy (March 2008 - August 2011)
- Graduated summa cum laude from the mathematics department.; GPA 4.16/4.3

PUBLICATIONS

Mihee Lee, Ognjen Rudovic, Vladimir Pavlovic, and Maja Pantic, ***"Fast Adaptation of Personalized Deep Learning for Facial Action Unit Detection,"*** in Int'l Joint Conference on Artificial Intelligence IJCNN, Workshop on Affective Computing, Macao, China, 2019

WORK EXPERIENCE

Samsung's AI Center in Cambridge, UK (Jan 2019 – July 2019)
Disentangling factors in multi-modal datasets.
- Research to find private/shared factors in multi-modal datasets

Personalized deep learning model
- Build a personalized model to detect one's facial Action Unit (AU) with Meta-learning
- By leveraging the meta information, make the model detect a completely new AU as well as a new person

R&D Center, Samsung SDS - Assistant Engineer (May 2015 - May 2017)
Brightics-Cello Demand Sensing
- Forecast supplies of electronic stores (Media Mark and Saturn) in Germany based on Big Data.
- Deal with many small data parallelly in spark.
- Make a batch model with Decision Tree, Linear Regression and ratio weight.

Brightics 3.0
- Self-teach, research, comprehend, and develop algorithms of pre-processing and analytic functions in Big Data Analysis System such as outlier removal, KNN, log-likelihood ratio test by implementing APIs of Spark and Scala.
- Customize Machine Learning Libraries of Spark such as Naive Bayes, Power Iteration Clustering based on clients' needs.

Brightics 2.0
- Design and develop UI in Big Data Analysis System for users to use queries, DSL language in Scala and implement various analytic functions provided by this solution.
- Front end with JavaScript, jQuery, AngularJs / Backend with Node.js, spray on top of Scala, Akka

CMS development department, Samsung SDS - Assistant Engineer (November 2013 - April 2015)
Big Data Platform 2.0
  - Develop the module to load log data into Elasticsearch under Hadoop Ecosystem.
  - Architect data structure to transform and parse it considering structure of Elasticsearch as well as customer's needs in order to minimize times for loading and querying.
  - Develop RESTful API for novice users to query data from Elasticsearch under Spring Framework.
  - Develop validation module to ensure all data to be inserted into Elasticsearch without any loss.
PreloadApp
  - Analyze log data that are extracted from Samsung mobile phone users and stored in Amazon S3 to remove infrequently used applications in Samsung mobile platform.
  - Convert unstructured log data into structured table by processing "Cleansing", "Key-Indexing" with Map/Reduce using Hive under Hadoop Ecosystem.
  - Monitor daily logs with batch job using Hive query and report it.
Big Data Platform 1.0
  - Install Hadoop with fully distributed mode on Linux.
  - Develop UI for users not familiar with Linux environment to edit easily configuration of Flume such as source, channel and sink
  - CRUD for Flume configuration and changed configuration history
  - Front end with JavaScript, jQuery, AngularJs / Backend with Spring Framework

TEACHING EXPERIENCE

Rutgers University
  - Teaching Assistant; CS336 Principles of Information and Data Management, CS206 Introduction to Discrete Structures II, CS373 Numerical Analysis and Computing, CS214 System Programming, CS112 Data Structures
Algorithm Instructor
  - Teach employees in Samsung SDS diverse types and approaching ways of algorithmic problems in order to help them to achieve the "Advanced" level in the Samsung Software Certificate
EWHA Womans University
  - Numerical Analysis, Numerical Differential Equations, Calculus as a graduate teaching assistance

HONORS AND AWARDS

Best Study Group Award, Samsung SDS, 2014
Scholarship from BK21(Brain Korea 21 Program for Leading Universities & Students) Fall 2011 - Fall 2012
Lotte Foundation Scholarship (Awarded to outstanding students in the field of science or arts) Fall 2009 - Spring 2011
Merited Scholarship from EWHA University Spring 2008 - Spring 2011

COMPUTING SKILLS

Programming Language: Java, Scala, Python, JavaScript, Hive query, MATLAB
Open Sources: Pytorch, Tensorflow, Keras, Apache Spark, Apache Hadoop/MapReduce, Elasticsearch, Apache Hive