

Ze-Yuan “Zack” Hu

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EDUCATION

University of Texas **Austin, TX** **Sept 2017 – May 2019**

- M.S. in Computer Science. (GPA: 4.00/4.00)

University of Wisconsin **Madison, WI** **Sept 2010 – Dec 2014**

- B.A. in Computer Science. (GPA: 3.74/4.00)
- B.A. in Economics with Honors. (GPA: 3.85/4.00)
- B.A. in Mathematics. (GPA: 3.81/4.00)
- Recipient of 2013 Honors Summer Sophomore Research Apprenticeship
- Recipient of 2012 Meek Bishop Scholarship in Economics, *top 2 out of 500 economics major students*

WORK EXPERIENCE

Software Engineer **IBM** **August 2015 – August 2017**

DB2 LUW federation team

- Constructed **Hive** and **Impala** wrappers with **C++** and **Java** to support federation database between traditional RDBMS and Hadoop-based data warehouse solution
- Created automated setup tools with **Perl** and **Shell** that reduce product configuration time by 75%
- Enhanced server option optimization tools using **C** to reduce federation database performance tuning time by 90 % and enable the capability of tuning the product against Hive, Impala, and Spark
- Resolved over 20 defects, including a severe memory leak issue that impacted a \$1.6 million deal. *Awarded IBM Manager’s Choice Award 2016*

Research Assistant **UW-Madison** **May 2013 – April 2014**

- Applied Spatial Gaussian Process & Dirichlet Process on fMRI data with **MATLAB** and improved power of testing on predicting Dementia based upon pixel value of the scan by 5 %

Research Assistant **UW-Madison** **September 2012 – May 2013**

- Implemented SVM using **Python** to examine the impact of Feedback on children’s learning outcomes
- Examined the statistical correlation between fMRI data and DTI data in measuring the brain activity of children during their learning process with **Python**

PROJECTS

- **Distributed Key-Value Store** (2018) A Distributed Key-Value Store that uses eventually consistency model with two session guarantees: *Read Your Writes* and *Monotonic Reads*
- **Identifier Inference through Neural Network** (2017), built N-gram and Neural Network language models using **tensorflow** to study the *Identifier naming convention* problem
- **Exploring Stereotypes and Biased Data with the Crowd** (2017), examined the behavior of crowd on Amazon Mechanical Turk to help with the bias detection in datasets for machine learning tasks
- **Neural Networks for Sentiment Analysis** (2017), feedforward neural network and convolutional neural network for the sentiment analysis
- **Shift-Reduce Parsing** (2017), a shift-reduce parser using both a greedy model and a global model with beam search
- **Sequential CRF for NER** (2017), a system that uses HMM model for POS tagging and CRF model for NER
- **Watson Introspector** (2016), a cognitive tool built in Python on IBM Bluemix for understanding software, answering questions, and interacting with software architecture and data flows in 3D. *Awarded Second Prize in IBM China Development Laboratory Hackathon.*

- **OptiTimal** (2013), an android application that allows user to log their time usage and generate a simple statistical report that characterizes their time management style.
- **Checker** (2012), an AI engine developed in Java for checker game with alpha-beta pruning search algorithm, depth-first iterative deepening method.

TEACHING

- NEU466M Quantitative Methods in Neuroscience (Spring 2018, UT Austin)
<http://ctcn.utexas.edu/quantitative-methods-neuroscience/>
Teaching Assistant
- M408K Differential Calculus (Fall 2017, UT Austin)
<https://www.ma.utexas.edu/users/pmorales/syllabus/syllabus.php?unique=53780>
Teaching Assistant

SPECIALIZED SKILLS

- **Languages:** C++; C; Java; Shell; Python; SQL; MATLAB
- **Software:** Db2; Tensorflow; Keras; Git; ClearCase; Hive; Impala; Maven; Hadoop
- **Graduate Coursework:** Machine Learning, Structured Models for NLP, Human Computation & Crowdsourcing, Natural Language Processing, Semantics, Distributed Systems

SERVICE AND SOCIETIES

- UTCS Master Admission Committee (Jan 2018 – March 2018), Member
- IBM Diamond & Ring Toastmaster Club (Jun 2016 - Jun 2017), President