

YANG PAN

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EDUCATION

Rice University	Houston, Texas
Master of Computer Science	<i>Aug. 2017 - Dec. 2018 (expected)</i>
Shanghai Jiao Tong University	Shanghai, China
Bachelor of Science in Engineering, Automation	<i>Sept. 2013 - June 2017</i>

EXPERIENCE

Facebook, Inc.	Menlo Park, California
<i>Performance and Capacity Engineer Intern</i>	<i>May 2018 – Aug. 2018</i>
<ul style="list-style-type: none">· Built a general validation framework for service health and data correctness validations, improving reliability of services owned by Capacity Engineering and Analysis team at Facebook.· Provided common validation facilities that can be shared accross different services and miscellaneous data.· Supported custom validation logic to be plugged in for executing individual service or data validation.· Supported both periodic validations which are automatically scheduled, and on-demand validations that can be triggered by users anytime from any machine, making the framework flexible and convenient to use.· Automated the entire workflow, from service and data validations to remediation and logging results into dataset.	
Shanghai Jiao Tong University	Shanghai, China
<i>Research Assistant</i>	<i>Dec. 2016 – June 2017</i>
<ul style="list-style-type: none">· Studied image hashing and retrieval algorithms on large data sets, especially data dependent supervised hashing.· Introduced additional constraints to the optimization problem of Latent Factor Hashing (LFH), and applied two-stage optimization method to maximize the penalized log-likelihood function.· Introduced nonlinearity in regression models, and compared them using Akaike information criterion (AIC).	

SELECTED PROJECTS

MyDB Database System	Houston, Texas
<i>Supervised by Prof. Christopher Jermaine</i>	<i>Jan. 2018 – May 2018</i>
<ul style="list-style-type: none">· Implemented infrastructure of database system, including an LRU buffer manager and record management tools.· Implemented two-pass multiway merge sort (TPMMS) algorithm, and B+ tree based on the infrastructure.· Built an SQL front end with syntactic and semantic checking using flex and bison, together with a back end that excutes selection, projection, join (supporting scan join and sort merge join), aggregate and grouping operations.· Implemented logical optimization using cost estimation, and physical optimization by annotating expressions.	
Code Optimizer for ILOC	Houston, Texas
<i>Supervised by Prof. Keith Cooper</i>	<i>Mar. 2018 – Apr. 2018</i>
<ul style="list-style-type: none">· Built a scanner with flex and a parser with bison for the intermediate representation language ILOC.· Implemented super-local value numbering algorithm to reuse computed value, reducing about 8% of cycles.· Implemented loop unrollling optimization that unrolls inner loops by a factor of four, reducing about 6% of cycles.	
Reliable File Transfer and Intra-Domain Routing Protocols	Houston, Texas
<i>Supervised by Prof. T. S. Eugene Ng</i>	<i>Sept. 2017 – Nov. 2017</i>
<ul style="list-style-type: none">· Designed and implemented a reliable file transfer protocol on unreliable network, using cyclic redundancy check (CRC) and sliding window, which could deal with up to 95% packet loss, duplicate, delay, mangle, and reorder.· Implemented link-state (LS) and distance-vector (DV) routing protocols in C++ for intra-domain routing.	

TECHNICAL STRENGTHS

Languages	Proficient in C/C++, Python; Comfortable with Haskell, MATLAB, Verilog
Platforms	Windows, macOS, Linux (Ubuntu)
Tools	PyTorch, Keras, scikit-learn, OpenCV, MySQL, L ^A T _E X, Multisim