Hilfi Madari Alkaff

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Interest

Distributed system, machine learning, big data analytics and their intersection

Education

University of Illinois at Urbana-Champaign M.S. in CS, 2012-2014
University of California, Berkeley B.S. in EECS, 2009-2011

Relevant Coursework(†:Coursera): Operating Systems, Algorithms, Computer Systems, Cloud Computing, Computer Networks, Distributed Systems, Network Security, Bioinformatics, Machine Learning for Signal Processing, Social Visualization, Data Mining, Machine Learning†, Natural Language Processing †

Research Experience (* Indicates work has been published in a conference)

Cross-Layer Scheduling in Cloud Computing (Under Professor Gupta) Jul 2013 - Present

- Designed and implemented a novel cross-layer scheduling framework enabling cloud applications to make better scheduling decisions in a network topology-aware manner in Hadoop and Storm

Dense Network (Under Professor Kravets) Dec 2012 - June 2013

- Implemented patch for the 802.11 wifi protocol in the HTC-Hero network device driver in order for phones to function optimally with high energy-efficiency under network with high density of devices

CrowdWatch* (Under Professor Kravets) Aug 2012 - Dec 2012

- Design and implement a novel crowdsourcing framework with high energy-efficiency and scalability by exploiting the multiple radios (WiFi and Bluetooth) that exist in phones today in OMNeT++ simulator
- Implements our framework as a library in the Android platform

User-Centric Secure Systems* (Under Professor Song) Aug 2011 - June 2012

- Implements a system for Android that spans smart clients and datacenter servers, and allows end-users to intuitively control their private data while developers use an API to create secure program

Tessellation ManyCore OS* (Under Professor Kubiatowicz) Aug 2010 - June 2012

- Implemented resource guarantees policies for the graphic subsystems in Tessellation
- Implemented ACPI support and the PCI subsystem in Tessellation
- Ported multiple applications such as TBB, video players from Linux to Tessellation

Sample projects (Refer to website for full portfolio)

Newsnet Jan 2014 - May 2014

- Implemented a novel similarity search frameworks that is able to support OLAP queries in real-time.

MatchMate Jan 2014 - May 2014

- Implemented a visualization that displays compatibility between oneself and others which utilizes algorithm inspired by two sources: the OkCupid compatability algorithm and the Five Languages of Love theory.

Distributed File System Aug 2012 - Dec 2012

- Implemented a distributed, fault-tolerant key-value storage which supports map-reduce style job-execution

Garfield June 2013 - Present

- Implemented a job-portal website from scratch using Python, Flask, PostgreSQL, JQuery and Bootstrap

Industry Experience

LinkedIn, Software Researcher Intern June 2014 - Aug 2014

- Will be working on the design of LinkedIn's next-generation graph processing framework.

Yahoo!, Software Researcher Intern Jan 2014 - May 2014

- Analyzed lookback processing in the Storm processing framework with Cassandra and Memcached

Qualcomm, Software Engineer Intern May 2011 - July 2011

- Worked in the camera device driver team to implement numerous features such as 3D snapshot and auto-flicker detection to work with multiple Android versions

Professional Service

- Teaching: Operating Systems (Fall 2010), Systems Programming (Fall 2012), Distributed Systems (Spring, Fall 2013)
- Reviewer: NSDI 2013, SIGCOMM 2013