

EMPLOYMENT

CTO **DTI Management and 1Ticket.com** **November 2017–Present**

- Clean house for tech team and business ops to talk: replacing 90% of the team.
- Break up the tech department into smaller teams: scaling the department by five times.
- Move from Scrum to Kanban to streamline the dev process: reducing release interval from weeks to hours.

Software Engineer **1Ticket.com** **March 2017–July 2017**

- Move to a serverless, microservice architecture on AWS: reducing infrastructure costs by six times.
- Reduce the number of double sales across key marketplaces by five times: helping increase revenue by 42%.
- Build a near-infinite scalable backend architecture: reducing StubHub integration errors by ten times.

Assistant Professor **University of the District of Columbia** **August 2014–August 2018**

- Teach cloud computing: principles, algorithms, and tech (EC2, S3, DynamoDB, Hadoop, EMR).
- Teach network security and cryptography: theory, implementation, and hacking with Python 3.
- Teach advanced web development: techniques and technologies (React, Bootstrap, PHP, MySQL).

Senior R&D Engineer **Observable Networks** **November 2012–July 2014**

- Developed fast scalable data structures for big data analysis; reduced query time by 190 times.
- Automated server provisioning and deployment on Amazon EC2; reduced install time by 10 times.

Research Assistant **Washington University in St. Louis** **August 2006–November 2012**

- Designed a file distribution protocol that reduced distribution times on data centers by 41 times.
- Built a distributed application that reduced costly Internet traffic by 40 times.

Technical Intern **Intel Corporation** **May 2008–August 2008**

- Developed utilities and methods to analyze the I/O dependence of Intel x86-based Unix applications.

EDUCATION

St. Louis, MO **Washington University in St. Louis** **August 2006–December 2012**

- Ph.D. in Computer Engineering, December 2012. GPA: 3.6
- M.S. in Computer Engineering, May 2009. GPA: 3.6

Wichita Falls, TX **Midwestern State University** **August 2002–May 2005**

- B.S. in Computer Science and Mathematics (Double Major), May 2005. GPA: 3.9

TECHNICAL EXPERIENCE

Projects

- **Microframework (2019)**. Built a micro-framework for serverless APIs: reducing lines of code by 100x.
- **Marketplace SyncX (2018)**. Built an architecture to update millions of inventory items per second.
- **Bitmap Filters (2014)**. In-memory data structure to speed up query execution: compared to SQL, faster by 10–290 times. Python, SQLAlchemy, Celery, Amazon S3, RedShift, ElastiCache (Redis).
- **Peer-to-peer Protocol (2010–2012)**. Data transfer protocol to saturate gigabit links in data center networks: faster than Twitter's alternative by 41 times. Python, C, EC2.

ADDITIONAL EXPERIENCE AND AWARDS

- **Publications (2007–2013)**: Wrote and published ten research papers.
- **Chancellor's Fellow (2006–2011)**: Awarded a competitive five-year fellowship to complete Ph.D.
- **Intel Goodie Drawer Award (2008)**: Honored for delivering timely and relevant analyses.
- **President's Medal of Excellence (2005)**: Won graduation medal for highest GPA in college.

See details in my curriculum vitae: <https://shakirjames.com/cv.html>