Muhammad "Osama" Sakhi

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EDUCATION

Georgia Institute of Technology *Atlanta, GA*
- **Expected Graduation:** December 2019
- **Degree:** Master of Science in Computational Science & Engineering
- **Coursework:** Computer Vision, Computational Science & Engineering Algorithms, Quantum Mechanics

Georgia Institute of Technology *Atlanta, GA*
- **Graduation:** May 2017
- **Degree:** Bachelor of Science in Computer Science
- **Concentrations:** Intelligence & Devices
- **GPA:** 3.86
- **Awards/Honors:** Dean's List, Faculty Honors, Asian and Pacific Islander Scholarship
- **Coursework:** Machine Learning, Natural Language Processing, Introduction to Artificial Intelligence, Design and Analysis of Algorithms, Robotics and Perception, Systems and Networks, Applied Combinatorics

PROJECTS & RESEARCH

Facebook SUMO Challenge, Dr. Zhile Ren & Dr. Frank Dellaert [*http://sakhi.es/project/sumo*] *Sep. 2018 – Present*
- Trained a Faster-R-CNN network on 360 Degree RGB-D images to localize bounding boxes in 2D
- Adapted 2D bounding box localizations to detect objects in 3D for 100+ categories

Computing Betweenness Centrality, Dr. Oded Green [*http://sakhi.es/project/hpc*] *Aug. 2016 – May 2017*
- Ported algorithm for computation of betweenness centrality onto NVIDIA GPUs using cuStinger framework

Humor Genome Project, Dr. Lew Lefton *Aug. 2015 – Dec. 2016*
- Developed web crawler to extract jokes from Reddit, Crafted recommendation system for users to view and rate jokes

EXPERIENCE

Instructor, DukeTIP [*http://sakhi.es/post/teaching*] *Jun. 2018 – Jul. 2018*
- Taught a total of 40 students for four weeks across two courses: Modern Programming and Artificial Intelligence
- Designed syllabi, conducted parent-teacher conferences, crafted assignments spanning five core topics: Fundamentals of Python Programming, Web Development, Pathfinding, Machine Learning, Natural Language Processing

Software Engineer, Pindrop *Jun. 2017 – Jun. 2018*
- Automated a data collection task that consumes 90 days' worth of data for researchers to create adaptive fraud detection models
- Optimized memory consumption for a new product to use 75% less memory than previous implementations
- Created new framework for continuous deployment of fraud detection models to production systems
- Migrated database records from Postgres to Redis and used custom key-value encoding to optimize lookup times

Teaching Assistant for Introduction to Artificial Intelligence, Georgia Tech *Aug. 2016 – Dec. 2016*

Software Engineering Intern, Pindrop *May 2016 – Aug. 2016*
- Designed database performance experiment to help determine which relational database scaled appropriately for the expected load of 1 million requests/day

IT Intern, The Home Depot *Mar. 2015 – Aug. 2015*
- Extracted driver's license information from images using Computer Vision and Optical Character Recognition libraries

EXTRACURRICULARS

TEDxGeorgiaTech, Student Speaker [*http://sakhi.es/post/ted*] *Sep. 2018 – Present*
- Selected among 70 applicants to deliver a TED talk on mentorship in front of a crowd of 200 students

SKILLS

- **Coding**: Python, C, C++, Golang, Java, MATLab, MySQL, MongoDB, JavaScript, HTML, CSS
- **Frameworks/Tools:** Scikit-learn, PyTorch, OpenCV, Numpy, Pandas, AWS, Kubernetes, Docker, Spark, Arduino