

ZICONG WANG

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EDUCATION

University of Toronto - Master of Engineering 2022 - PRESENT

Courses: Blockchain Middleware Systems, Cloud Computing, Computer Security, Cloud-Based Big Data Science and Machine Learning

Purdue University - Bachelor of Science in Computer Engineering 2018 - 2021

Courses: Operating System Engineering, Computer Networks, Data Structure and Algorithm, Data Science, Microprocessor Systems and Interfacing, Digital Systems Design

Indiana University - Intelligent System Engineering 2017 - 2018

PROFESSIONAL EXPERIENCE

Research Assistant - Sleight of Hand (3D Imaging and Image Analysis) AUG 2020 - DEC 2020

- Delivered algorithm to segment clean **3D hand image model with depth and RGB data** from background using noise reduction and image segmentation.
- Implemented finger counting functionality to separate fingers from hand after generating binary hand image and to automatically count number of fingers present.

Research Assistant - Deep Learning Image Processing and Analysis (sponsored by HP Inc Divisions) AUG 2019 - DEC 2019

- Implemented Deep Learning model based on LeNet5 in Python to find optimal resolution for text-based image documents to reduce file size while maintaining legibility.
- Achieved maximum validation **accuracy of 85%** with a **training time of 1.5 hours** on industry standard GPUs (as of 2019), outperforming the LeNet baseline model at **65%**.

Data Research Intern JAN 2018 - MAY 2018

- Organized big data of IU faculty publications from 2000 through 2017, explored and found suitable data visualization methods for visualizing such data.
- Completed a Data Visualization project of such data that was published by visualization team.

TECHNICAL PROJECTS

- **Image Storage web app with Autoscaling Cache Pool(AWS)** - Image storage web application where user can use keys to store and retrieve images using unique keys to **AWS S3** with **AWS EC2 instances** serving as cache. Key-image mappings are stored using **MYSQL**. Elastic Autoscaler on the backend monitors cache miss rate on **Cloudwatch every 60 seconds**, equipped with manual or automatic load balancing functionality managed by a Manager frontend interface to control the number of EC2 cache instances running to preserve cost. Python was used as the major backend development language.
- **ID Digitizer** - Serverless Web app with Python in the backend capable of extracting and storing uploaded student ID Card information using **AWS Lambda, DynamoDB, RDS and S3**. Project takes advantage of **AWS Machine Learning Algorithms** such as **rekognition and textract** to extract faces and texts. Projected cost of **\$353,119.74** after six months with **1 million users**.
- **DragonHunt** - Python terminal text-based Dragon Hunting Game.
- **Rogue** - Recreated graphical Rogue-like game in Java playable with keyboard in Terminal.
- **DChat** - Decentralized Secure Chatting Application implemented with Index Servers, capable of offline messaging and used AES, RSA and MD5 for secure message transfer.

SKILLS AND INTERESTS

Languages & Skills
Interests

Python · Java · AWS · Azure · SQL · Matlab · C · Spark · Flask · Git
Traveling · Ice Hockey · Basketball · Blockchain development · Cooking