Mostafa Okasha

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EDUCATION

McMaster University, Hamilton ON – Bachelor of Engineering **June 2019**
Mechatronics Engineering & Co-op (Software focus)

EMPLOYMENT

Software Developer Intern – *Ericsson* *Kanata, ON* | **Jan. 2018 – Aug. 2018**
- Programmed 5G Baseband features in C++ to increase peak LTE data throughput by 400%
- Implemented scalable, high-level matrix multiplication algorithms to eliminate real-time bottlenecks
- Designed an interactive Bash script that reduced time spent debugging mobile connection logs by 50%
- Integrated script with Python Remote Desktop Protocols to automate mobile testing and triple capacity
- Utilized: Agile and Scrum methodologies; CI/CD Pipelines; Black-Box, SIT, and Unit testing; Code Reviews

Instructional Assistant Intern – *McMaster University* *Hamilton, ON* | **Aug. 2017 – Dec. 2017**
- Received recognition for highest Instructional Assistant rating voted by all students – 4.6/5
- Conducted Engineering Design and Ethics tutorials for 1000+ 1st year students with a team of 3
- Mentored students building a project for a disabled client through the Product Development Life Cycle

Business Development Engineer Intern – *QKids* *Remote* | **May 2017 – Aug. 2017**
- Developed a Python based ATS using SQLite and SQL Server that filtered over 5000 candidates
- Integrated with Gmail API to automate messaging which saved over 160 hours of sending emails
- Optimized string matching algorithms by improving the buffer comparison operations

Biomedical Engineer Intern – *King Faisal Hospital* *Riyadh, SAU* | **May 2016 – Aug. 2016**
- Analyzed medical equipment with an Oscilloscope to find and repair minor defective components
- Composed an Arduino and Circuitry training program for freshmen interns to learn programming
- Performed 13 training labs in PLC and FPGA design and documented the labs for future interns

PROJECTS

ChessMate – *Capstone* **Apr. 2019**
- Initiated leading a team of 6 to design and build a robot that plays chess against a human player
- Developed image recognition using OpenCV on Python and a C++ Neural Network for optimization
- Designed a pixel counting algorithm to determine when different pieces on the board are moved
- Increased response time by 800% by deploying to an EC2 server and integrating an S3 database
- Achieved real-time feedback through configuring Multiprocessing and Multithreading Protocols

EyeSee – *Hack Princeton: devpost.com/software/humanvision* **Apr. 2017**
- Won 1st place in the VR/AR Hack category from over 120 participating teams
- Built an Augmented VR headset that detects and alerts nearby threats for partially sighted users
- Utilized a Google API voice output and sharpened the image using Matplotlib for better detection

RC Robot Arm – *Personal* **Jun. 2016**
- Constructed a robotic arm with stepper motors and PID control to significantly increase accuracy
- Remotely controlled the robot with a 2.4Ghz transceiver connected to a joystick using Arduino

GlassTasks – *Michigan Hacks* **Oct. 2015**
- Created a Google Glass Android App that displays restaurant orders on the Glass head-up display
- Implemented a Java API that transfers orders from the POS to kitchen staff to increase efficiency
- Built a front-end website using JavaScript that allows order management and displays order history

SKILLS

Languages: Python; C/C++; JavaScript; MATLAB; HTML/CSS; SQL
Technologies: Git; Unix/Linux; AWS - EC2/S3; VB; Eclipse; MySQL
Libraries: OpenCV; NumPy; Matplotlib; TensorFlow; Boto3