JESSICA NAHULAN(https://jessnah.github.io/)

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SUMMARY AND ACCOMPLISHMENTS

- Years of professional experience working as a software developer with experience creating production level applications
- Solo developed face recognition and image capture application component for product now launched across Canada and India
- Experience developing modern and scalable frontend production level applications with React, Redux, and ES2016
- Created documented libraries in C++, C#, and java to offer device integration support to applications
- Developed libraries for communicating and obtaining data from 3rd party WSDL web services
- Led backend development in the area of airline passenger document data collection and customs processing for java servlet
- Professional experience performing as a data analyst to interpret and analyze data using statistical techniques
- Experience performing intensive R&D in order to make recommendations to company for product development direction
- Established knowledge of data structures and algorithms; Teaching assistant at Queen's for Information Structures course
- Professional experience in the area of computer vision and focus on machine learning for 4th year capstone project

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EDUCATION

Computer-Software Engineering (4th year) with Professional Experience   **[May 2018]**
Queen's University, *Kingston, Ontario*
Awards: Queen's University Principals Scholarship for excellent academic performance

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WORK EXPERIENCE

Data Analyst (Queen's TEAM)   **[Sep 2017 – Apr 2018]**
BlueGreen Innovations Group Inc. in conjunction with RBC Blue Water Initiative, Sarnia, Canada
- Consolidating available information pertaining to current and projected impacts on the Great Lakes due to Climate Change
- Interpreting data and analyzing results using statistical techniques in order to extract trends and make predictions
- Implementing data analyses, data collection systems and other strategies that optimize statistical efficiency and quality

Software Developer   **[May 2016 – Aug 2017]**
Embross North America Ltd., Richmond Hill, Canada
- Lead developer for face tracking camera component of security product which has been launched across several airports in Canada. Created liveness detection algorithms and face tracking C# libraries for multi-camera advanced facial recognition and image capture using color and IR cameras, followed by offering platform support for this library's integration
- Worked on various server side components in order to handle back-end business logic according to customer requirements
- Created server web app simulator using the spring framework to simulate business rules and transactions
- Provided System and Components integration by programming C++ libraries for card readers and creating the platform layer
- Experience acting as a front end development expert, specializing in React.js/Redux. Implemented features on pages such as multi language audio support, user input onscreen keyboards, radial menu selections, and receipt printing using device events

Software Developer   **[Sep 2015 – Apr 2016]**
Ground Station GUI - Queen's Aero Design Team
- Collaborated with team members in order to create and optimize code for the plane's ground station interface
- Worked with code using the RXTX Library for serial communication between the plane and ground station
- Modified the GUI to allow for video feed, GPS utilization, and hot keys to trigger the plane to drop or make turns

Problem Analysis Mentor   **[Sep 2014 – Dec 2014]**
Queen's University - Department of Computer Engineering (Sponsored by KRONOS), *Kingston, Ontario*
- Managing first year students in developing an iOS application (in Objective-C) for course scheduling and organization
- Monitoring project timelines and providing feedback to Faculty Advisors, Course Coordinator, and Program Associate
- Providing results and application overview to client company for further implementation as a workforce management solution

Technical Analyst   **[Jun 2014 – Aug 2014]**
AKC Contracting & Supply, *Doha, Qatar*
- Created Python scripts to automate the extraction of required information from the Operations server and sending email reports to the respective employees

- Developed excel macros for organizing the extracted information and illustrating it using charts/tables that enhanced the evaluation of team's progress by the manager
- Effectively communicated with manager to analyze daily tasks and implement scripts that increased the team's overall efficiency

TECHNICAL SKILLS

Programming:
- Proficient in: C, C++, Java, Python, C#, HTML, CSS, JavaScript, SQL, PHP, VHDL, Verilog, jQuery, Arduino, .NET
- Production level experience in developing pages according to design documents and mock-ups with backend functionality implemented for the displaying and manipulation of data incoming and outgoing from the server using React.js and Redux
- Practical Working Experience in Serial communication, USB and HID communications in C/C++ in Windows Environments
- Software development using J2EE, Spring, XML, JAXB, 3rd party WSDLs and the SOAP protocol, and familiar with maven projects
- Knowledge of Databases, Data Structures and Algorithms, and mobile application development using Android SDK, and Swift
- Testing (Black-box, White-box, Unit, Regression)
- Experience in database management (MS-SQL, MySQL, DB2)

PROJECT EXPERIENCE

Google DayDream VR Game – Space Clash   **[Jul 2017 – Present]**
Releasing this month to Google Play Store
- Project lead and developer working to release an Android mobile and VR DayDream game application
- Using advanced C# scripts to automate object spawning/destruction and player control. Developing game on the unity platform

4th Year Capstone Project – Face Recognition and Home Security using Machine Learning   **[Aug 2017 – Apr 2018]**
- Developing a project which utilizes Google's Tensor Flow machine learning library as this has the biggest developer support
- Implemented several learning models from Regression to Deep Learning, these models are still learning from the data that we are providing on a daily basis. After cross validation, we are at 76.6% accuracy but our goal is to reach 82.3% for our use case

Apple AR kit Project – World of Virtual Objects   **[May 2017 – Aug 2017]**
https://github.com/JessNah/PlacingObjects
- Created open source examples of augmented reality application which offers users the chance to interact with real and 3D content in the app. The project offers learners examples for them to reference in their own projects or learn from

Computer Vision – Edge Detection Open Source Library Creation   **[Sep 2016 – Nov 2016]**
https://github.com/JessNah/Edge-Detection
- Developed an open source library to help new learners in the field of computer vision, which is easy to implement and well documented
- Application takes a photo of what's in view from a connected webcam and uses a Laplacian 3x3 matrix as the kernel for a convolution filter to create a bitmap of the captured image where the edges of the image are detected and shown

Web-based Database Application Development   **[Jan 2016 – Mar 2016]**
MusicMatesInc.
- Lead back-end programmer in a team working for the local organization: MusicMatesInc. Created a database system to allow client registry and payment information retrieval. Work in progress includes the connection of web pages/forms, and verification of the submitted and retrieved data, along with the client login/logout system
- Applied database design techniques to create the database schema, and used MySQL and PHP to create the database application to support users in querying and manipulating the database

EXTRA CURRICULAR ACTIVITIES

Commissioning Digital Artist / Graphic Designer   **[January 2014 – Present]**
Course Assistant and Note Taker, *Queen's Student Accessibility Services*   **[January 2016 – April 2016]**
Volunteer instructor for children's Lego Robotics workshops, *Queen's Robogal's* **[January 2015 – April 2016]**

PROFESSIONAL CERTIFICATIONS

- WHMIS
- Online certificates in: machine learning, full stack development, game development and java programming