# Jonathan Wen

## Contact

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## Skills

**Languages:** Scala, Python, C++, PHP, MySQL, JavaScript, HTML, CSS, MATLAB, Arduino

**Libraries:** Spark, jQuery, D3.js, React, Node.JS

**Academic Interests:**
- Machine Learning
- Computer Vision
- Data Science

## Education

**University of Waterloo**
Systems Design Engineering, Class of 2019

**Awards**
Cumulative Average of 84%
President's Scholarship, 2013

## Interests

Photography, Guitar, Toronto Raptors, Traveling (not in basketball)

## Research

**University of Waterloo:** Research Assistant — Jan – Apr 2016

- Used Radon barcodes and cross validation to predict breast cancer tumours from ultrasound images, under the guidance of Professor Hamid Tizhoosh
- Generated contours for ground truth images and ingested into segmentation algorithm, used to predict region of tumour for any image

## Experience

DataESP: Data Scientist – Waterloo, ON — Since May 2016

- Solely developed **Association Rules algorithm** in Scala to determine unique relationships between items in transactions, displayed visually with D3.js
- Created frontend interface from scratch using Angular and Material Design to analyze and upload large datasets
- Used classification to determine if the results were significant or spurious
- Discretized millions of records from MySQL and S3 using Spark and Hadoop

Indochino: Full Stack Engineer - Vancouver, BC — Sep – Dec 2015

- Optimized website performance by reducing Memcached calls and using SQL Views, decreasing page load time by **upwards of 300%**
- Implemented Alterations project, allowing customers to update their clothing measurements, saving thousands of dollars
- Refactored code to use SQL tables, improving scalability and maintenance

Klick Health: Front End Developer – Toronto, ON — Jan – Apr 2015

- Developed QuickSearch feature for company intranet, allowing thousands of items to be searched simultaneously
- Created interactive kiosk page in React for conference with 11,000 attendees
- Contributed to MVC website development for major pharmaceutical companies

## Projects

InstaTabV2 – Python, Scikit-Learn — github.com/jstarw/InstatabV2

- Currently building photo recommendation application using Flickr API
- Scraped 10,000 photo tags and grouped using k-means clustering algorithm, fed into neural network to predict user's preference

Handwriting Recognition – MATLAB — github.com/jstarw/machine-learning

- Recognized MNIST handwritten numbers using neural networks and multi-class classification, achieved an accuracy of over 96%