

Yongya Li

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Github: <https://github.com/Yongya-GitHub>

Education

- **Master of Science**, Chemistry, Brock University (GPA: **4.0/4.0**) May 2018 – Present
Research Direction: **DNA Computing and Bioanalytical Chemistry**
Develop, analyze, verify and optimize new methodologies and tools to guide, simulate and implement versatile applications of DNA nanodevices
- **Honours Bachelor of Science**, Chemistry, Brock University (GPA: **3.71/4.0**) Sep 2015 – Jun 2018
Distinguished Graduating Student Award; First-Class Standing; Dean's Honours List – Year Three & Four

Technical Skills

- Programming Languages: Python, SQL, Matlab, Java, JavaScript
- Web/Server: HTML, CSS, NodeJS, Express, JQuery, React
- Database: MongoDB, SQL
- Data Visualization tools: Microsoft Excel, Tableau, Matplotlib, Jupyter
- Machine Learning Packages: Scikit-learn, Pandas, TensorFlow, Pytorch
- Cloud Platforms: AWS, GCP, Microsoft Azure, IBM Watson Studio
- Operating Systems: Windows, macOS, Linux

Certificates

- **IBM Data Science Professional Certificate** Dec 2019
(Included sections: open source tools and libraries, methodologies, Python, databases, SQL, data visualization, data analysis, and machine learning)
Credential ID: XHEBVYQPTK5L

Experience

Research Assistant, Feng Li Research Group, Brock University May 2017 – Present

- Strong knowledge and experience in analytical concept, testing theory, quality control, good documentation practices and validation protocols
- 3 years of research testing background, including defining test strategy, test planning, test case design, and execution
- Expertise in planning, designing and execution of complex testing solutions. Ability to perform parameter optimization, performance analysis, error checking, and troubleshooting.
- Prepare testing procedure description documents, result validation and verifications reports

Single Nucleotide Variant Detection

- Built a simulation-guided model using Matlab to predict 3D DNA walking devices performance in DNA reactions (Published in *Chemical Science*, DOI:10.1039/C8SC02761G)

Red-Blotch Grapevine Infection

- Developed a rapid decision support system for viral infection detection (Published in *Analytical Chemistry*, DOI: 10.1021/acs.analchem.9b03545)

US Economic Analysis

- Applied SQL magic in Jupyter notebooks to extract useful datasets related to US GDP from different RDBMS source systems, and then transform and load the data into the IBM Db2 data warehouse
- Applied Python Scikit-learn, Pandas, Matplotlib and Seaborn libraries in IBM Watson cloud to analyze and visualize datasets and finally created Dashboards to display the relationship between US economic indicators and the influence factors

Toronto Asian Foodservice

- Scraped webpages and parsed HTML code to retrieve useful datasets of neighborhoods in Toronto by leveraging BeautifulSoup package, Google Maps Geocoding API and Foursquare API
- Cleaned datasets and selected features to group neighborhoods into clusters using k-means clustering algorithm
- Used Folium library to visualize geospatial data, results and findings with heat maps and choropleth maps