

Johnson Chu

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Qualifications

Back-end Computing Experience

- More than 5 years experience with Python, C – embedded.
- Proficient with Oracle, PostgreSQL, and InfluxQL.
- Proficient with parallel computing (python multiprocessing, threading, GIL issues).
- Proficient with web APIs, REST API, server programming, and request libraries.
- Experience with C++, R-scripting, JavaScript, PLSQL, and Progress.
- Experience with web scraping (beautiful soup, selenium, mechanize, robot.txt).
- Experience with server and database libraries (psycopg2, socket, sql alchemy, pytz).
- Experience with DBA tools (Dbeaver, SQL Developer, IAM roles and Security, Informatica).
- Applied Bayesian Statistics and wrote Neural Net Class from scratch to analyze data.
- Tailored IT infrastructure to handle data streams in local servers, a private cloud, and AWS.

Methodology and Software Management Experience

- Experience working in Agile Methodology (Scrum) and Waterfall.
- Understand the pros and cons of Agile versus Waterfall methodologies.
- Proficient with version development software (Git, Microsoft BOX, Confluence).
- Proficient drawing and reading DFDs (Visio, Open Draw, ERDs).

Electrical Engineering Experience

- Proficient CAD foot-printing, schematics, layout with Eagle.
- Proficient using microcontrollers (STmicro, Arduino, Raspberry pi).
- Proficient using testing equipment such as Spectrum Analyzers and Oscilloscopes.
- Experience designing whole platform and connecting modular digital circuitry.
- Experience developing IoT devices, implementing protocols (USB, HDLC-like, RS-232).

Professional Experience

GE Aviation, Cincinnati, OH – Data Engineer (temp to hire), Chris Rutherford.

Jan 2020 – Ongoing

- Migrate business sensitive data from legacy ETL systems onto AWS and develop corresponding cloud architecture. Work involves speaking to the voice of customer, documenting business logic (ETL), and implementation of AWS data lake architecture.
- Explore alternative architectures for optimum operational cost reduction.
- Success in identifying and capturing business requirements from more than 40,000 lines of code across multiple IT systems.

Procter & Gamble, Cincinnati, OH – Admin (contract), Perfume-micro-capsule and Surfactant labs.

2018-2019

- Coordinated the placement and performance of analytical tests from lab to plant scale raw materials in studies aimed at saving 8 million in cost reductions and down time.
- Optimized data handling pipeline for PMC and Surfactant studies.

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University of Cincinnati – Research Assistant II, Dr. Czyzyk-Krzeska.

2014-2017

- Generated over 100 statistical plots using Python sub-process calls to automate R-script.
- Performed data analysis on rtPCR assays, GC-MS/MS data, and Flow Cytometry.
- Mentored 4 peers in quantitative RNA analysis.

Constellation Data Systems (CDS) – Software and Chemical Engineer, Sherman Couch.

2013-2014

- Developed firmware for the STM32 microcontroller platform:
 - Coded Iridium Sat Modem Connection Class
 - Coded Paging Display API for Colored OLED
 - Coded USB Connection Class
- Developed Bootstrap(JS) front-end for P&G's Hydro-Laundry project in collaboration with senior back-end developer.

EPICS program at Purdue University – Lead Developer.

Fall 2011

- Implemented and coded statistical package on Arduino platform to monitor aerosol and chemical vapor concentrations in the air.
- Presented hand-held sensor to law-enforcement panel.

Education

Purdue University – Bachelor Degree in Physics and Chemistry. 2008-2013

- Honors degree, minor in math.
- Many graduate level courses taken in Physics, and elective in experimental circuitry design.

Stanford engineering – Machine learning. Online class of 2011 (90th percentile)

Publications

James Reigle, Dina Secic, Jacek Biesiada, Collin Wetzel, Behrouz Shamsaei, **Johnson Chu**, Yuanwei Zang, Xiang Zhang, Nicholas J. Talbot, Megan E. Bischoff, Yongzhen Zhang, Charuhas Thakar, Krishnanath Gaitonde, Abhinav Sidana, Stephanie Ross, Hai Bui, John T. Cunningham, Laura S. Schmidt, W. Marston Linehan, Mario Medvedovic, David R. Plas, Julio A. Landero Figueroa, Jarek Meller, and Maria F. Czyzyk-Krzeska. Multi-omics of clear cell Renal Cell Carcinoma in long-term tobacco smoking patients identifies prognostic metabolic signatures, Cancer Cell Manuscript, March 2020. (Submitted)

Megan E. Bischoff, Yuanwei Zang, **Johnson Chu**, Adam Price, Birgit Ehmer, Nicolas Talbot, Xijuan Liu, Qing Zhang, Jun-Lin Guan, David R. Plas Jarek Meller, and Maria F. Czyzyk-Krzeska, Selective MAP1LC3C (LC3C) autophagy requires noncanonical initiation regulators and EGLN3-dependent proline hydroxylation, Molecular Cell, July 2019 (Editor Review)

Johnson Chu, Graham Cooks. Suspended metal-ligand synthesis and Chemical Vapor Deposition, Undergraduate dissertations, West Lafayette, IN, May 2012 (Presented)