

Xi (Bill) Chen | Resume

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Graduate bioinformatician/biochemist with Statistic MA certification completing the final year of a Ph.D degree. Passionate about Big Data, Machine Learning and AI research, with strong technical and interpersonal skills, adept at working in teams and successfully delivering projects. I was awarded **Microsoft Azure Research Funding** in 2016 and gained a **Grow with Google Challenge Scholarship** in 2018. I am a certified **SAS** programmer and certified **Deep Learning** and **Cuda** instructor.

Education

- **University of Kentucky** **Kentucky**
Ph.D. in Biochemistry (Bioinformatics), *2013–Jan, 2019*
- **University of Kentucky** **Kentucky**
Master (Cert) in Statistics *2016–2019*
- **Udacity**
Self-Driving Nano-degrees (Expected) *2018–2019*

Technical Skills

- **Programming Languages:** CUDA, C++ (OK), R, Python3, SAS and Matlab (OK). Please refer to:
 - **Hackerrank:** <https://www.hackerrank.com/billchenxi>
 - **NVIDIA:** https://nvidia.qwiklab.com/public_profiles/5521a192-c2e9-4899-9750-500959646159
- **AI/DL/RL/ML Knowledge:** TensorFlow, PyTorch. Please refer to:
 - **Coursera:** <https://www.coursera.org/user/902cbf6a236e768db1c185c96778971b>
- **Cloud Computing Skills:** AWS, Google Cloud (GCP), Shiny. Please refer to:
 - **GCP/AWS:** https://qwiklabs.com/public_profiles/032b735c-3942-4f65-96e2-46bc821a884a

Publication & Software & Packages & Talks

- Papers:
 - Automatic ¹³C Chemical Shift Reference Correction for Unassigned Protein NMR Spectra, *Journal of Biomolecular NMR*, Aug 2018 DOI: 10.1007/s10858-018-0202-5 (link)
 - Parallelized Interactive Machine Learning on Autonomous Vehicles, *NAECON Dec 2018* DOI: 10.1109/NAECON.2018.8556776 (link)
 - Deep Learning by Doing: The Nvidia Deep Learning Institute, *Journal of Computational Science Education*, Dec 2018 DOI: 10.22369/issn.2153-4136/10/1/16 (link)
 - Pan-Cancer Epigenetic Biomarker Selection from Blood Sample Using SAS®, *MWSUG*, Sep 2018 (link)
 - Finite Mixture-of-Gamma Distributions: Estimation, Inference, and Model-Based Clustering, *Advances in Data Analysis and Classification*, Jan 2019
- Package
 - BaMORC CRAN, 2018 CRAN GitHub
 - BMRBr CRAN, 2017 CRAN GitHub
- Workshop
 - CUDA Programming Workshop (UK ACM 18)
 - Deep Learning for Computer Vision Workshop (UK ACM 19)

Notable Projects

- **(Deep Learning) Deep Learning for Cancer Classification with Gene Expression Data:** *Deep learning approach to classifying cancer types. Data from NIH Cancer Data public repo, with 32 different cancer types. The model accuracy is more than 97% with 0.2% false positive/negative rates.*
- **(Reinforcement Learning) Parallelized Interactive Machine Learning on Autonomous Vehicles:** *Development of an interactive reinforcement learning pipeline for autonomous driving from a game simulation. The simulator is from Microsoft AirSim and driving environment is simulated from Unreal Engine.*
- **(App Prototyping/Dev) CatsHub App Entrepreneurship:** *Development of student-oriented phone application that simplifies student's life by providing a one-stop shopping service hub. The original idea was from the University of Kentucky student organization. We pitched and created a prototype, and won venture reward.*

Previous Employment

- **Deep Learning Institute** **NVIDIA**
○ *University Ambassadors / Deep Learning Institute (DLI) Certified Instructor* *2018–Present*
Certified to teach Fundamentals of Computer Vision (CV), Fundamentals of Deep Learning for Multiple Data Types (MDT), and Fundamentals of Deep Learning for Natural Language Processing (NLP). Contents include: Cuda, Deep Learning, Neural Network, Image Classification, Object Detection, Image Segmentation, Word Generation, Image and Video Captioning, Text Classification, Text Translation, and etc..
Technologies: TensorFlow, Cuda, PyTorch, Caffe2, Keras, etc.
- **Moseley Bioinformatics Lab** **Lexington KY**
○ *Graduate Research Assistant* *2013–Present*
Worked on construction of Protein NMR Reference Correction and Protein NMR Deuteration Level Detection frameworks. Designed and implemented the corresponding software package (BaMORC) and web applications systems. Created R package 'BMRBr' for easy download and processing of BMRB files.
Technologies: R, R Package, RStudio, Python, Shiny, Docker.
- **Prof. Derek S. Young, Dept. of Statistics, University of Kentucky** **Lexington KY**
○ *Research Collaborator* *2017–Present*
Worked on simulation for the Mix-Gamma Model with R. Jobs included generation of a large amount of simulated data from gamma distributions, implementation of the testing code, unit test, and preparation and design of submission shell code for HPC (High-performance Cluster).
Technologies: SAS, R, R Package, HPC Management, Bash

Reward and Certification Highlights

- SIAM International Conference on Data Mining Dissertation Travel Award (2018)
- MWSUG Conference Paper Scholarship (2018)
- Grow with Google Challenge Scholarship (2017/18)
- SC18 Paper Scholarship (2018)
- SAS Certified Clinical Trials Programmer, Statistical Business Analyst, Advanced Programmer
- Deeplearn.ai Certification Series (Coursera)