XINYU WANG

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Education:

May 2019   **University of Connecticut**, Storrs, CT

Bachelor of <u>Computer Science & Engineering</u> in School of Engineering

Bachelor of <u>Mathematics</u> in College of Liberal Arts and Sciences

Class of 2019, Honors Program, Dean's list, School of Engineering Scholar, New England Scholar

GPA 3.83/4.0

Awards:

- ❏ UConn School of Engineering Synchrony Financial Scholarship in Cybersecurity   *October 2017*
- ❏ Third Overall in UConn 2017 Calculus Competition   *April 2017*
- ❏ 2016 New England Scholars   *January 2017*
- ❏ Dean's list in UConn School of Engineering and School of Liberal Arts and Sciences   *Fall 2015 - Present*

Work Experience:

Undergraduate Researcher in UConn Laboratory of Machine Learning and Health Informatics   *April 2017 - Present*

- ❏ Collaborated with doctoral and postdoctoral researchers and research faculties from Yale University to study the applications of machine learning algorithms in health informatics.
- ❏ Supervisor: Professor Jinbo Bi
- ❏ Website: https://healthinfo.lab.uconn.edu/

Undergraduate Technician in UConn Comcast Center for Excellence in Security Innovation   *September 2017 - Present*

- ❏ Collaborated with doctoral researchers to work on Secure Inter-Domain Routing project which aims to design softwares that provide a user-friendly interface for Internet Service Providers to adopt RPKI, a specialized public key infrastructure framework for securing routing.
- ❏ Supervisor: Professor Amir Herzberg
- ❏ Website: https://csi.uconn.edu/

Teaching Assistant for UConn Undergraduate Course CSE 2500, CSE 3666   *Spring 2018 - Present*

- ❏ Responsibilities include grading students' work and holding weekly office hours.

(Details of my research projects are listed on page 2.)

Skills and Languages:

❏ Programming:	(Proficient)	Python, Matlab, R, Java, Scheme, Mips Assembly Language	
	(Familiar)	C++, Javascript, Ruby, MySQL, PostgreSQL, MongoDB	
❏ System:		Linux [Arch Linux, Debian (Ubuntu, Raspbian), Red Hat], Windows	
❏ Language Proficiency:	English:	Fluent proficiency	
	GRE:	Verbal Reasoning	154 65%
		Quantitative Reasoning:	170 96%
		Analytical Writing:	3.0 17%
	Chinese:	Native proficiency	

Extracurricular Activities/Clubs:

- ❏ Member of Upsilon Pi Epsilon International Honor Society   *May 2018 - Present*
- ❏ Member of UConn Deep Learning Group   *September 2017 - Present*
- ❏ Member of UConn 3D Printing Club   *September 2017 - May 2018*
- ❏ Participant of UConn Math Problem Seminar   *January 2017 - Present*
- ❏ Member of UConn Math Club   *January 2017 - Present*
- ❏ Participated multiple CTF (Capture The Flag) events

Research/Projects:

- ➢ **Machine Learning In Drug Discovery and Development**   *April 2018*
                                                                                                                                     - Present
  - ❏ A research on applying artificial intelligence to drug discovery by developing innovative approaches to incorporate biochemical knowledge derived from data for drug development.
  - ❏ Investigated the effectiveness of applying OctNet convolutional network on representing 3D structures of molecules, and analyzed the performances between tSNE and UMAP algorithms applied on dimension reduction of molecule features.
  - ❏ Currently work on designing a generalized web-based visualization interface for interactive presentation of clustered molecules for demonstration and analysis purpose.

- ➢ **Secure Inter-Domain Routing**
  - ❏ A research on protocols to secure inter-domain routing based on current Borderless Gateway Protocol (BGP) and Resource Public Key Infrastructure (RPKI).
  - ○ **SmartValidator**   *January 2018*
                                                                                                                                     - May 2018
    - ❏ Reviewed and improved the performance of SmartValidator2, a software designed by former researchers to handle conflicted BGP announcements smoothly.
    - ❏ Plan on cooperating with Comcast and testing the RPKI smart validator on their network.
  - ○ **RPKI/ROV Forecast Web-Service**   *June 2018*
                                                                                                                                     - Present
    - ❏ Currently work on designing and building a software that provides forecast service for Internet Service Providers to predict potential impact of adopting specific policies with RPKI. Expect to complete the product by the end of 2018.

- ➢ **"A Provable Multi-linear Model for Tensor Completion Using Auxiliary Features"**   *September 2017*
                                                                                                                                     - April 2018
  - ❏ A research on improving the performance of Tensor completion with Side information (TECOS). A stochastic process is implemented in TECOS to achieve sublinear convergence rate by relaxing the constraints instead of objective functions.
  - ❏ Coauthors: Jin Lu, Jiangwen Sun, Xinyu Wang, Jinbo Bi.

- ➢ **"Collaborative Phenotype Inference from Comorbid Substance Use Disorders and Genotypes"**   *May 2017*
                                                                                                                                     - October 2017
  - ❏ A research on predicting symptoms of comorbid conditions using matrix completion method. A stochastic and parallel algorithm LADMM (Linearized Alternating Direction Method) is developed to solve this problem with significant improvement on both efficiency and accuracy compared with other existing algorithms.
  - ❏ Contribution: Tested performances of different matrix completion algorithms (extended to tensor completion algorithms in the later project) in large-scale genetic studies of substance use disorders.
  - ❏ Coauthors: Jin Lu, Jiangwen Sun, Xinyu Wang, Jinbo Bi.
  - ❏ Submitted to and accepted by IEEE BIBM 2017.
  - ❏ Invited to publish an extended version on Journal BMC.

- ➢ **Parameter Optimization for LADMM using Inverse Method with Neural Network**   *December 2017*
                                                                                                                                     - Present
  - ❏ A Study on solving the difficulty of locating parameters during the experiment on the LADMM algorithm using a framework implemented based on a published paper which applied neural network on the traditional inverse method.
  - ❏ Implemented LADDM algorithm in Python for future study of solving linear inverse problems using deep projection models.
  - ❏ Currently Suspended the project and plan to continue on this study in Spring 2019.