CHENJIE (JACK) NI

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EDUCATION

University of Toronto, St. George Campus   September 2015 - June 2019 (expected)
Honours Bachelor of Science, 4th Year
Specialist in Computer Science and Minor in Mathematics
Focus on Computer Vision and Supervised Learning

- **Current cGPA: 3.95 / 4.0**
- Relevant Courses:
  - Software Design (CSC207), Data Structures and Analysis (CSC263), Intro to Databases (CSC343)
  - Intro to Software Engineering (CSC301), Operating Systems (CSC369), Multivariable Calculus (MAT237)
  - Intro to Neural Networks and Machine Learning (CSC321), Intro to Visual Computing (CSC320)
  - Intro to Artificial Intelligence (CSC384), Statistics for Computer Scientists (STA248)
- Honors & Awards: Dean's List Scholar in the Faculty of Arts and Science (2015, 2016, 2017, 2018)

TECHNICAL SKILLS

Programming Languages	Proficient in Python, C and Java;
	Familiar with SQL, MATLAB, R, Assembly, JavaScript, HTML and CSS
Essential Libs & Packages	TensorFlow, NumPy, OpenCV, PyTorch
Version Control Systems	SVN, Git(Hub) ⌂ `https://github.com/jellycsc/`
Databases	PostgreSQL, MySQL
Operating Systems	UNIX, Microsoft Windows
Microsoft Office Applications	Word, Excel, PowerPoint
Robot Related Programming	easyC V4, ROBOTC, PROS (Purdue Robotics Operating System)

RELEVANT PROJECTS

Image Colorization with Convolutional Neural Networks (Python + PyTorch)   2018 Winter
Individual, CSC321: Intro to Neural Networks and Machine Learning   *UofT*

- Keywords: CIFAR-10, U-Net (Skip Connections), Dilated Convolution
- Trained, and analyzed the performance of CNN. Performed debugging by visualizing intermediate activations.

The PatchMatch Algorithm (Python + NumPy + OpenCV)   2018 Winter
Individual, CSC320: Intro to Visual Computing   *UofT*

- Improved efficiency of the algorithm introduced in original `paper` without compromising image quality.

Multi-Agent Pacman Game (Python)   2018 Winter
Individual, CSC384: Intro to Artificial Intelligence   *UofT*

- Keywords: DFS, BFS, A^* Search, Minimax, Expectimax, Alpha-Beta Pruning
- Analyzed both heuristic search and uninformed search algorithms, and implemented multi-agent models.

Traffic Intersection Monitoring and Guidance System (C)   2017 Fall
Team Leader, CSC369: Operating Systems   *UofT*

- Learned how to work with synchronization primitives in C and avoid potential deadlocks.

RELEVANT PROJECTS (CONTINUED)

File Synchronization Over Socket (C) ⓞ `jellycsc/file-sync-over-socket`   2017 Winter
Team Leader, CSC209: Software Tools and Systems Programming   *UofT*
- Developed multitasking server to handle multiple clients transferring files simultaneously using sockets.

Photo Renamer GUI (Java + JFrame) ⓞ `jellycsc/PhotoRenamer`   2016 Fall
Team Leader, CSC207: Software Design   *UofT*
- ○ Intro: Preview, rename, and add tags to a photo. It serializes user history and keeps logs at the same time.
- Enhanced team work efficiency by using git version control system.

Automated Puzzle Solving Program (Python) ⓞ `jellycsc/BFS-DFS-puzzle-solving`   2016 Winter
Individual, CSC148: Intro to Computer Science   *UofT*
- Managed to efficiently solve several kinds of puzzles using BFS and DFS searching algorithms.

EMPLOYMENT EXPERIENCE

Teaching Assistant   2018 Fall - 2019 Winter
Department of Mathematics   *UofT*
- TA for two first year Mathematics courses, MAT135 Calculus 1(A) and MAT136 Calculus 1(B).
- Leading tutorials and supervising the Applied Communication Tasks (ACT).

VOLUNTEER AND EXTRA-CURRICULAR ACTIVITIES

Math Orientation Volunteer   2016 Fall
Department of Mathematics   *UofT*
- Motivated first year newly admitted students and shared my own experience & study tips.

VEX Robotics Competition Referee   2016 Winter
iDesign Central Toronto VRC Qualifying Event, VEX Robotics   *St. Michael's College School*
- Enforced VRC rules and ensured the normal progress of the game.

AFFILIATIONS AND MEMBERSHIPS

Translator & Proofreader, JueJin Translation Project ⓞ `xitu/gold-miner`   2018 Winter - Present
Tech Department Leader, University of Toronto UTFAQ Club ⊕ `https://utfaq.com/`   2017 Fall - Present
Member, University of Toronto Application Development Association Club   2017 Fall - Present
Mentor, Woodsworth Summer E-Mentorship Program, Woodsworth College, U of T   2017 Summer
Mentor, Peer Academic Support, Department of Mathematics, U of T   2016 Fall
Mentee, iConnect International Mentorship Program, CIE, U of T   2015 Summer

PERSONAL INTERESTS

Sports: Jogging and Cycling.
Miscellaneous:
- ↪ Maintaining a `website` and Linux virtual private servers for offering SOCKS5 proxy services.
- ↪ Performed component-level repairs on iPhone 4S, 5S and 6S. Thanks to `iFixit`.
- ↪ Writing tech blogs on GitHub Page and/or WordPress.