

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 Machine Learning

- **Current cGPA: 3.95 / 4.0**
- **Honors & Awards: Dean's List Scholar in the Faculty of Arts and Science (2015, 2016, 2017, 2018)**
- **Scholarships: Mc Nab Undergraduate Scholarship**
- **Relevant Courses:**
 - Data Structures and Analysis (CSC263), Intro to Software Engineering (CSC301)
 - Intro to Visual Computing (CSC320), Intro to Image Understanding (CSC420)
 - Intro to Neural Networks and Machine Learning (CSC321), Machine Learning and Data Mining (CSC411)

TECHNICAL SKILLS

Programming Languages

Proficient in Python, C and Java;


Essential Libs & Packages

Experience in NodeJS, JavaScript, SQL, MATLAB, R, Verilog

Version Control Systems

NumPy, OpenCV, PyTorch, TensorFlow

Databases

SVN, Git(Hub)  <https://github.com/jellycsc/>

Operating Systems

MongoDB, PostgreSQL, MySQL, Firebase

Document Preparation System

MacOS, Ubuntu, CentOS, MS Windows, Raspbian

Robot Related Programming



L^AT_EX, MS Word

easyC V4, ROBOTC, PROS (Purdue Robotics Operating System)

RELEVANT PROJECTS

JellyBlog and JellyGist (Jekyll and GitBook + Travis CI)

2019 Winter

Individual Project,  [jellycsc/JellyBlog-Travis-CI](https://github.com/jellycsc/JellyBlog-Travis-CI)  [jellycsc/JellyGist-Travis-CI](https://github.com/jellycsc/JellyGist-Travis-CI)

Home

- Tested and deployed automatically using Travis CI custom scripts. See Personal Interests for details.

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.

RELEVANT PROJECTS (CONTINUED)

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- 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.

EMPLOYMENT EXPERIENCE

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- 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

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- 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

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- 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

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- Sports: Playing basketball and Cycling.
- Miscellaneous:
- ↪ Maintaining a website and several Linux Virtual Private Servers for offering SOCKS5 proxy services.
 - ↪ Writing Jekyll tech blogs. 📁 <https://nichenjie.com/>
 - ↪ Making easy-to-understand tutorials using GitBook. 📁 <https://gist.nichenjie.com/>
 - ↪ Performed component-level repairs on iPhone 4S, 5S and 6S. Thanks to iFixit.