

CHENJIE (JACK) NI

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EDUCATION

University of Toronto, St. George Campus

2015 Fall - Present

Honours Bachelor of Science, 3rd Year

Specialist in Computer Science and Minor in Mathematics

Focus on Linux Operating System 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;

Essential Libs & Packages

Familiar with SQL, MATLAB, R, Assembly, JavaScript, HTML and CSS

Version Control Systems

TensorFlow, NumPy, OpenCV, PyTorch

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

- Techniques included: 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 quality.

Multi-Agent Pacman Game (Python)

2018 Winter

Individual, CSC384: Intro to Artificial Intelligence

UofT

- Techniques included: 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)

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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*
- 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

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- Cashier & Cook, McDonald's** 2016 Summer
Summer Part-Time Job *Shanghai, China*
- Greeted and served customers in a courteous manner.
 - Adhered to working standards for cooking and preparing food.

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 *Toronto, ON, Canada*
- 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: Jogging and Cycling.
- Others: Staying up to date on latest computer hardware and software new features.
- ↪ Performed component-level repairs on iPhone 4S, 5S and 6S.
 - ↪ Writing tech blogs on GitHub Page and WordPress.