

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 in Artificial Intelligence and Machine 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)

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

Databases

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

Operating Systems

PostgreSQL, MySQL

Microsoft Office Applications

*nix, Microsoft Windows

Robot Related Programming

Word, Excel, PowerPoint

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 (SOURCE CODE AVAILABLE ON GITHUB)

File Synchronization Over Socket (C)

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)

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)

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

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

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

Translator & Proofreader, JueJin Translation Project  xitu/gold-miner

2018 Winter - Present

Member, University of Toronto FAQ Club (UTFAQ)

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; Camping in Summer

Others: Staying up to date on latest computer hardware and software new features.

↔ Performing component-level repairs on iPhone.

↔ Writing tech blogs on both GitHub Page and WordPress.