

# CHENJIE (JACK) NI

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## EMPLOYMENT EXPERIENCE

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**Software Developer, Crowdmark Inc.**

June 2019 - Present  
*Toronto, ON, Canada*

**Course Instructor, Easy 4.0 Education Inc.**

Linux Programming | Responsibilities: Designing Course and Tutoring

May 2018 - Present  
*Toronto, ON, Canada*

**Teaching Assistant, Department of Computer and Mathematical Sciences** May 2019 - August 2019  
CSCB09 | Responsibilities: Tutoring and Marking *University of Toronto Scarborough*

- Delivered live coding demo and gave students constructive feedbacks.

**Teaching Assistant, Department of Mathematics**

MAT135/136 | Responsibilities: Tutoring and Marking

September 2018 - April 2019  
*University of Toronto*

- Presented problem-solving strategies and facilitated student learning in Applied Communication Tasks.

## EDUCATION

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**University of Toronto, St. George Campus**

Honours Bachelor of Science

September 2015 - June 2019  
**cGPA: 3.95 / 4.0**

- Specialist in Computer Science and Minor in Mathematics.
- Focus in Machine Learning and Computer Vision.

## TECHNICAL SKILLS

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**Programming Languages**

Proficient in Python, C and Java;

Familiar with NodeJS, JavaScript and SQL;

Exposure to Ruby, MATLAB, R and Verilog;

**Essential Libs & Packages**

NumPy, OpenCV, PyTorch, Matplotlib, pthread.h, Express.js


**Configuration Management Tool**

Ansible

**Cloud Environment**

AWS, Azure, Google Cloud Platform

**SCM (or VCS)**

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

**Databases**

MongoDB, PostgreSQL, MySQL, Firebase

**Operating Systems**

macOS, Ubuntu, CentOS, Microsoft Windows, Raspbian, OpenWrt

**Document Preparation System**

L<sup>A</sup>T<sub>E</sub>X, Microsoft Office

**Robot Related Programming**

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

**Other Toolset**

ESXi, Proxmox, Jekyll, Travis CI, Circle CI

## HONORS & AWARDS

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Mc Nab Undergraduate Scholarship, Woodsworth College

January 2019

Dean's List Scholar in the Faculty of Arts and Science, UofT

2015 - 2019

Second runner-up of 400 teams, VEX Robotics World Championship, Anaheim

April 2013

## LIST OF PROJECTS

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- JellyBlog and JellyGist (Jekyll and GitBook + Travis CI)** November 2019  
Individual Project |  JellyBlog-Travis-CI  JellyGist-Travis-CI
- Utilized Travis CI to automate testing and deployment of my personal websites.
  - Managed to use AWS S3 + Cloudfront + Route 53 to host these static web content.
- Instaline, a queueing system for restaurants and customers (Android, Java)** March 2018  
Product Manager of 7-person team, CSC301: Intro to Software Engineering *University of Toronto*
- Led a team of 7 and managed to deliver new APP releases in three consecutive iterations.
- The PatchMatch Algorithm (Python + NumPy + OpenCV)** March 2018  
Individual Project, CSC320: Intro to Visual Computing *University of Toronto*
- Further improved the algorithm introduced in original paper and reduced its runtime by 10x.
  - Algorithm efficiency ranked 1 out of 200 students without compromising image quality.
- Image Colorization with Convolutional Neural Networks (Python + PyTorch)** 2018 Winter  
Individual, CSC321: Intro to Neural Networks and Machine Learning *University of Toronto*
- Keywords: CIFAR-10, U-Net (Skip Connections), Dilated Convolution
  - Trained, and analyzed the performance of CNN.
  - Performed debugging by visualizing intermediate activations as well as utilizing t-SNE technique.
- Multi-Agent Pacman Game (Python)** 2018 Winter  
Individual, CSC384: Intro to Artificial Intelligence *University of Toronto*
- 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 *University of Toronto*
- Learned how to work with synchronization primitives in C and avoid potential deadlocks.
- EXT2 File System (C)** 2017 Fall  
Team Leader, CSC369: Operating Systems *University of Toronto*
- Implemented raw EXT2 File System in Ubuntu and practiced manipulating binary data in C
- File Synchronization Over Socket (C)**  jellycsc/file-sync-over-socket 2017 Winter  
Team Leader, CSC209: Software Tools and Systems Programming *University of Toronto*
- 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 *University of Toronto*
- 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 *University of Toronto*
- Managed to efficiently solve several kinds of puzzles using BFS and DFS searching algorithms.
- Uber Ride-sharing Simulation (Python)**  Uber-ride-sharing-simulation 2016 Winter  
Individual, CSC148: Intro to Computer Science *University of Toronto*
- Built models to simulate ride-sharing reality, and estimated average waiting time for every customer

**Playing Card Based Encryption & Decryption Algorithm (Python)** 🔗 [encryption-algo](#) 2015 Fall  
Individual, CSC108: Intro to Computer Programming *University of Toronto*

- Combined the randomness in playing cards with encryption, and achieved basic security functionality

## VOLUNTEER AND EXTRA-CURRICULAR ACTIVITIES

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**Math Orientation Volunteer** 2016 Fall  
Department of Mathematics *University of Toronto*

- 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, 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: Swimming and playing basketball.

Miscellaneous:

- ↪ Maintaining several Linux Virtual Private Servers for offering SOCKS5 proxy services.
- ↪ Writing Jekyll 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.