

# Jonathan Tong

☎ (864)-633-7568

✉ jt572@cornell.edu

🏠 jonathantong.com

📺 Jont828

👤 Jonathan-Tong

🇺🇸 U.S. Citizen

## Education

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*Cornell University*

*Ithaca, New York*

B.S. IN COMPUTER SCIENCE

*Expected May 2021*

- Cumulative GPA: **3.82** (Dean's List in Fall 2017 & Fall 2018)
- Member of the Beta Omicron chapter of **Delta Tau Delta Fraternity** at Cornell University
- **Relevant Coursework:** Object-Oriented Programming, Linear Algebra, Discrete Structures, Functional Programming, Introduction to Algorithm Analysis, Computer System Organization, Probability & Statistics

## Relevant Experience

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*Oracle*

*Seattle, Washington*

SOFTWARE ENGINEERING INTERN

*May 2019 – PRESENT*

- Excited to work on the block storage team as an incoming intern at Oracle this summer!

*Clemson University*

*Clemson, South Carolina*

RESEARCH INTERN

*June 2015 – August 2016*

- Developed a novel **pronunciation based convolutional neural network** to detect cyberbullying in text messages under computer science professor Feng Luo, where we published 2 research papers based on our work
- Utilized Python and Bash scripting to run machine learning models such as **Naive Bayes, Random Forests, and SVMs**
- Proposed a novel idea to convert the text to a phonetic encoding, reducing noise from internet slang and misspelled words and significantly **increasing precision, recall, and accuracy by up to 8.6%, 8.9%, and 6.3%**, respectively

## Publications

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X. Zhang, **J. Tong**, N. Vishwamitra, E. Whittaker, J. P. Mazer, R. Kowalski, H. Hu, F. Luo, J. Macbeth, and E. Dillon, "Cyberbullying Detection with a Pronunciation Based Convolutional Neural Network," in *15th IEEE International Conference on Machine Learning and Applications (ICMLA)*, 2016, pp. 740–745.

N. Vishwamitra, X. Zhang, **J. Tong**, H. Hu, F. Luo, R. Kowalski, and J. Mazer, "MCDefender: Toward Effective Cyberbullying Defense in Mobile Online Social Networks," in *Proceedings of the 3rd ACM on International Workshop on Security And Privacy Analytics*. 2017, pp. 37–42.

## Projects

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*LaTeX Gloves — latexgloves.io*

*July 2018 – PRESENT*

- Created a full stack web app that converts & formats pictures of handwritten notes into LaTeX documents and emails the result
- **Utilized Flask** to implement the backend and **employed Google's Cloud Vision API** for the handwriting recognition

*TimeBlocks*

*June 2018 – July 2018*

- Developed a mobile app **using React Native** with a stopwatch and labels so users can record how long they spent on each task
- Designed a user interface for the app with footer tab navigation, swipeable tab navigation, data visualization (pie charts & daily logs), a timer screen, a settings screen, a swipeable list, custom data labels, and also added support for AsyncStorage

*Social Enterprise at Cornell — socialenterpriseatcornell.com*

*August 2018 – PRESENT*

- Worked as a **founding member on the executive board** to plan student-faculty lunches, guest speaker series, & recruitment events
- Developed a website for the student organization using **Bootstrap and SASS**

*Hobby Operating System*

*March 2016 – July 2016*

- Built a simple operating system **using C** and assembly with a command prompt, 10 commands, and a simple text editor
- Added serial ports, a Global Descriptor Table, an Interrupt Descriptor Table, Interrupt Service Routines, & Interrupt Requests
- Implemented functions such as puts(), strcpy(), strcmp(), getchar(), itoa(), and memset() in C to assist in developing the rest of the OS

## Skills

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**Primary/Proficient** Java ♦ Bash & Linux ♦ Python ♦ front-end web development (HTML, CSS, SASS, Bootstrap)

**Familiar** React Native, React, C, C++, Flask, OCaml, JavaScript, jQuery, Git, R, LaTeX

## Personal Interests

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Rubik's Cubes (personal best: **15.17 sec**) ♦ Clarinet ♦ Magic & Card Tricks ♦ Arch Linux