

# CHIH-CHENG YUAN

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## EDUCATION

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**National Taiwan Normal University** 2014 - 2019  
*B.S. in Computer Science and Information Engineering*

- Took a course in computational logic where various logics for verification such as LTL, CTL, and hoare logic are discussed and tools such as Coq, nusmv, and z3 are used.
- Other related courses include Algorithms, Discrete Mathematics, Automata Theory, Theory of Computing, Mathematical logic, Logical Programming in Prolog, Functional Programming in Common Lisp; Programming Language in SML (Coursera). Average GPA of above except online courses is **4.09** out of 4.3.

**FLOLAC Summer School at National Taiwan University** 2017, 2018, 2019  
**CONFESTA Summer School at University of Chinese Academy of Sciences** 2018

## EXPERIENCE

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**Institute of Information Science, Academia Sinica** 2019 - Present  
*Research Assistant*

- (On-going) Developed bit-level hardware verification safety algorithm based on algorithmic boolean learning and its implementation which solves about 300 of 747 instances in HWMCC10 benchmark. Optimized implementation with improved algorithm which combines learning and interpolation method solves about 400 instances, where Berkeley's state-of-the-art tool ABC's interpolation algorithm solves around 600 instances on the same computer.

AIG input parser, solver interface, program data structures, profiling and logging, and backend algorithm engines are independently implemented in C++ with minisat.

**Institute of Information Science, Academia Sinica** 2017 – 2019  
*Adjunct Research Assistant*

- SAT-solving reduction of poset cover problem for message sequence chart synthesis implemented in Python with z3.
- NP-hardness of k-anonymity checking problem and a randomized approach thereof for the 2010 Taiwanese census data implemented in Python with MySQL.

**Inside.com.tw** 2016  
*Software Engineering Intern*

- Backend Wordpress theme development; collaboration and communication with frontend team.
- In-house editor user-interface feature requests for editorial team.

**Inside.com.tw** 2015  
*Editorial Intern*

- Coverage, interviewing, and reporting on technology and startup related scenes.

## AWARDS & CERTIFICATES

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**Academic Excellence Award** 2016  
*Ranked top 5% in a class*

**TOEFL iBT** 2016  
*Score: 108 (Reading: 29 / Listening: 30 / Speaking: 22 / Writing: 27)*

**TOEIC** 2013  
*Score: 960*