

# Xiuming Zhang

🌐 <http://xiumingzhang.github.io>

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## RESEARCH INTERESTS

- Computational modeling of vision, learning, cognition, emotion, and various neuroscience problems
- General computer vision and machine learning

## EDUCATION

B.Eng. (ECE), **National University of Singapore**, Singapore

AUG 11 - MAY 15

- GPA: 4.97/5.00 | Ranking: 1/282 | Lee Kuan Yew Gold Medal
- Thesis: *Computational modeling of brain disorder heterogeneity: an Alzheimer's case* (leading to [J1])  
Committee: Profs. Thomas Yeo (advisor) & Shuicheng Yan (examiner)
- GRE: V 157 (74%), Q 170 (98%), AW 4.5 (80%) | TOEFL: 113 = R 30 + L 29 + S 26 + W 28

Exchange Student, **University of Waterloo**, ON, Canada

JAN 14 - MAY 14

- GPA: 95/100 (ECE courses)

## PUBLICATIONS

- [J1] Zhang X, Mormino EC, Sperling RA, Sabuncu MR, Yeo BTT (under review) *Bayesian model reveals latent atrophy factors in Alzheimer's disease with dissociable preclinical and clinical trajectories*.
- [C2] Gao J, Zhang X, Liang H, Shen X (2014) *Joint encryption and compressed sensing in smart grid data transmission*. **Proc IEEE GLOBECOM**.
- [C1] Zhang X, Jin Y, Tan HX, Soh WS (2014) *CIMLoc: a crowdsourcing indoor digital map system for localization*. **Proc IEEE ISSNIP**.

## HONORS & AWARDS

Lee Kuan Yew Gold Medal (best graduate throughout)	NUS	JUN 15
IES Gold Medal (top graduating student)	IES	JUN 15
Texas Instruments Book Prize on DSP & Systems (area top)	TI	JUN 15
Faculty Innovation & Research Awards	NUS	APR 14 & 15
IEEE-HKN (Eta Kappa Nu) Honor Society	IEEE	JAN 14
IET Prize	IET	JUL 13
Rohde & Schwarz Competition Finale Travel Grant	R & S GmbH	JUN 13
Intermediate Level Certificate of German Language	NUS	MAY 13

## RESEARCH EXPERIENCE

Research Officer @ Clinical Imaging Research Center, NUS-A\*STAR JUL 15 - Now  
**probabilistic graphical model, functional connectivity** Advisor: Prof. Thomas Yeo

- Computational modeling of functional connectivity by developing new probabilistic graphical models

Thesis Student @ Clinical Imaging Research Center, NUS-A\*STAR AUG 14 - MAY 15  
**probabilistic graphical model, linear model, voxel-based morphometry** Advisor: Prof. Thomas Yeo

- Bayesian modeling of Alzheimer's disease heterogeneity revealed distinct cognitive decline trajectories as early as the preclinical stage [J1]

Research Student @ Broadband Communications Research Lab, uWaterloo JAN 14 - APR 14  
**compressed sensing, pseudorandom sequence, smart grid** Advisor: Prof. Xuemin Shen

- Implemented a compressed sensing scheme with encryption [C2]

Research Intern @ NUS & Institute for Infocomm Research, A\*STAR MAY 13 - NOV 13  
**clustering, crowdsourcing, sensor, Android** Advisor: Prof. Wee-Seng Soh

- Designed and implemented an unsupervised crowdsourcing indoor map construction system that improves tracking and localization [C1]

## TEACHING EXPERIENCE

Teaching Assistant @ NUS School of Computing AUG 12 - AUG 13

- Coached over 100 undergraduates in CS1010E Programming Methodology over two semesters and received very positive feedback from both the lecturers and the students

## COMPUTER & LANGUAGE SKILLS

Programming Languages	MATLAB, C(++), Shell, Python, Android, HTML, VHDL, Assembly
Scientific Softwares	FSL, FreeSurfer, SPM, COMSOL Multiphysics, HFSS
Typesetting	T <sub>E</sub> X and friends, Adobe Illustrator
Operating Systems	Linux, OS X, Windows
Languages	English (proficient), Mandarin (mother tongue), German (elementary)