

Mingda Li 李明达

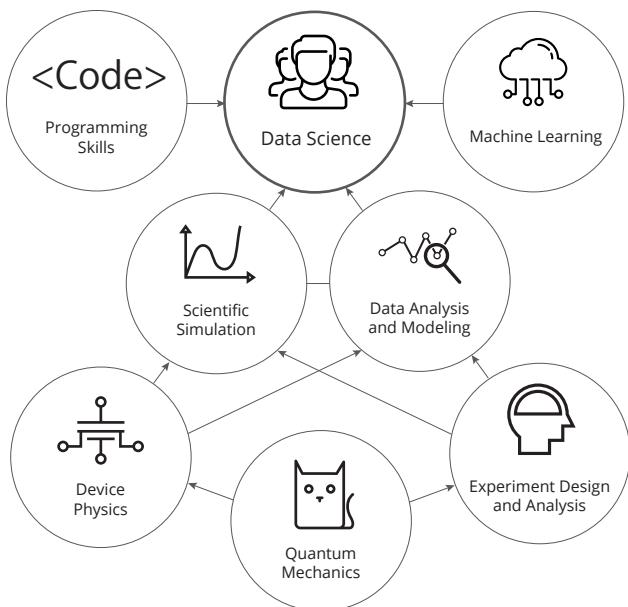
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CAREER OBJECTIVE



CODING EXPERIENCES

- Ocaml**
 - Physics-inspired Neural Networks for Efficient Compact Modeling
 - A distributed system with Async using 2/3 consensus protocol
 - A data structure for constructive real number with infinite precision
 - A interpreter for OCalf, a subset of OCaml
- Java**
 - Book genre classification with n-gram model
 - Named-entity recognition with Hidden Markov Model & Viterbi Algorithm
 - Word sense disambiguation with Naive Bayes classifier
 - Equivalent circuit generation with template-based evolution
- C++**
 - **Leno** electronic device simulation tool with:
 - 1) user defined one/two-dimension device structure;
 - 2) one/two-dimension electrostatics simulation ;
 - 3) bias-dependent capacitance simulation;
 - 4) one-dimension interlayer tunnelling current simulation.
- Python**
 - Grammar error analysis of passive sentences in Chinese
 - Dynamic CMOS inverter simulation with backward Euler method
 - Electronic device photolithograph layout using gdsCAD
 - Experimental data analysis and visualization
- Web**
 - A web application (www.thinfet.net) using LAMP stack on Amazon Web Service.

AWARD

- Best Poster Award for "Universal Device Modeling Machine based on Neural Networks" *International Symposium on Devices and Application of Two-dimensional Materials* (2016)

HOBBIES

- Sailing on Cayuga Lake, traditional and compound archery (never kill anything) and Muay Thai (get beaten a lot).

EDUCATION

- From 2015 to present
Ph.D. Candidate
(expected to graduate in 2017)
Major: Electrical and Computer Engineering
Minor: Computer Science
Cornell University, U.S.A
- From 2012 to 2014
M.S. Electrical Engineering
University of Notre Dame, U.S.A
- From 2008 to 2012
B.S. Micro-Electronics
Fudan University, Shanghai, China



PUBLICATIONS

- 1 "Physics-Inspired Neural Networks (Pi-NN) for Efficient Device Compact Modeling", Mingda Li, Ozan Irsoy, Claire Cardie, Huili Grace Xing, *IEEE International Electron Devices Meeting* (2016) (Submitted)
- 2 "Fermi Level Tunability of A Novel 2D Crystal: Tin Diselenide (SnSe₂)", Mingda Li, Shudong Xiao, Ruses Yan, Suresh Vishwanath, Susan Fullerton-Shirey, Debdeep Jena, Huili Grace Xing, *Device Research Conference* (2016)
- 3 "Two-dimensional Heterojunction Interlayer Tunneling Field Effect Transistors (Thin-TFETs)", Mingda Li, David Esseni, Joseph Nahas, Debdeep Jena, and Huili Grace Xing, *Electron Devices Society, IEEE Journal of the*, vol.PP, no.99, pp.1,1, 2015.
- 4 "Esaki Diodes in Van der Waals Heterojunctions with Broken-gap Energy Band Alignment", Ruses Yan, Sara Fathipour, Yimo Han, Bo Song, Shudong Xiao, Mingda Li, Nan Ma, Vladimir Protasenko, David A. Muller, Debdeep Jena, and Huili Grace Xing, *Nano Letter*, 15, 5791-5798 (2015)
- 5 "Single Particle Transport in Two-dimensional Heterojunction Interlayer Tunneling Field Effect Transistor", Mingda Li, David Esseni, Gregory Snider, Debdeep Jena, and Huili Grace Xing, *Journal of Applied Physics* 115, 074508 (2014).
- 6 "Lateral Transport in Two-dimensional Heterojunction Interlayer Tunneling Field Effect Transistor (Thin-TFET)", Mingda Li, David Esseni, Gregory Snider, Debdeep Jena, and Huili Grace Xing, *Device Research Conference* (2014)

CONFERENCE TALKS

- "Two-dimensional Heterojunction Interlayer Tunneling Field Effect Transistors (Thin-TFETs)", *Device Research Conference* (2014)
- "Fermi Level Tunability of a Novel 2D Crystal: Tin Diselenide", *Device Research Conference* (2016)

STUDENT LEADERSHIP

- President of Chinese Student & Scholar Association
University of Notre Dame, 2014 - 2015
- Treasurer of Electron Device Society
Cornell University, 2015 - 2016

U.S. PATENT APPLICATION

- Two-dimentional Heterojunction Interlayer Tunneling Field Effect Transistors, Serial No.: 14/629,222