

Yang Gao

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Education

2010–Present **B.Eng. in Computer Science, Tsinghua University, Beijing, China.**
GPA – 92.2/100(3.88/4.0). Rank – 2/100.
Grades of Probability and Statistics, Programming and Training, Data Structures, Discrete Mathematics, Calculus, Numerical Analysis > 95.

Research

- Summer 2013 **Stanford Undergraduate Visiting Research Program.**
Advisor: Prof. David Dill, Prof. Subarna Sinha *Bioinformatics Group, Stanford*
- Project: Identify Genes that Selectively Kill Cancer Cells Using Boolean Implications
 - Found several novel conditions, such as GO term similarity, pathway co-membership and Boolean Implication, to predict synthetic lethal relations between two genes with TCGA (The Cancer Genome Atlas) breast cancer data, which is vital for developing more effective cancer drugs.
 - Proposed several promising directions to further improve synthetic lethality prediction, based on a thorough literature review of the biological mechanism.
- Apr 2013–Pr. **Research Assistant in Artificial Intelligence Lab.**
Advisor: Prof. Jun Zhu *Machine Learning Group, Tsinghua*
- Focus on developing new MCMC methods which can sample from Bayesian posterior in a mini-batch manner with high mixing rate.
 - Proposed and did experiments with a method which combines SGD and Metropolis-Hastings Algorithm.
- 2011–2012 **Research Intern in Google Natural Language Processing Research Group.**
Advisor: Edward Chang and Fangtao Li *NLP Group, Google*
- Implemented and improved the deceptive answer detection module in Google Question Answering system.
 - Proposed a new graph regularization technique based on user behaviors cluster in a community, which can be combined with traditional supervised learning frameworks to significantly improve the detection performance.
 - Accepted paper: Fangtao Li, Yang Gao, Shuchang Zhou, Xiance Si and Decheng Dai. **Deceptive Answer Prediction with User Preference Graph** In the *annual meeting of the Association for Computational Linguistics (ACL)* 2013.

Course Projects

Artificial Intelligence Related.

- Build a web service to rank academic experts in a field, with learning to rank algorithms.
- Designed a game playing program for Gobang, with various pruning techniques.

Database Management.

- Build a database engine that supports fuzzy SELECT and fuzzy JOIN.

Web Development.

- Build a website which collects and analyzes sensor data from an Android app.

Computer Architecture Related.

- Be the first to successfully implement our own MIPS16e CPU using VHDL. *Team Leader*
- Implemented a visualized simulator for the Tomasulo Algorithm, which allows out-of-order instruction execution.
- Designed a circuit board and its VHDL program for a NS-Shaft game.

Awards

- 2011–2013 National Scholarship *awarded to top 3 among 125*
2012 China Computer Federation Undergraduate Award *awarded to top 100 in China*
2012–2013 Singapore Technologies Engineering Ltd. China Scholarship
2010 Intel International Science and Engineering Fair, 3rd prize
Cryptographic project in senior high, on behalf of China

Services

- 2013 Leader of Tsinghua Future Cloud Computing Club
Established the club from the very beginning and incubated four projects, aiming to make the key technical innovation for cloud computing.
- 2010–2012 Co-founder of Idea-Rush, a Technical Innovation and Practice Club
Organized training activities for club members, such as invited talks by Mozilla engineers.

Skills

- Mainstream C++, C, R, Python, Matlab, Java Assembly x86, MIPS
- Web Html, JavaScript Hardware VHDL
- Tools L^AT_EX, LibSVM, RankLib, Weka, QT, Lex, Yacc

Languages

- English **Proficient** TOEFL score 108: Reading 29, Listening 29, Speaking 23, Writing 27
Chinese **Fluent** *Native speaker*