Fei Xia

2# Zijing Student Apartment ⋄ Tsinghua University ⋄ Beijing 100084, P.R. China

86-15652799536(mobile) ⋄ xf12@mails.tsinghua.edu.cn ⋄ http://fxia.me

EDUCATION

Tsinghua University, Beijing, China   *2012 - 2016(Expected)*
B.E.(*Expected*) Department of Automation
GPA: 94.1/100, Average of Math Courses: 96.0/100
Ranking 1st/144 in Dept. of Automation

Georgia Institute of Technology, Atlanta, GA, USA   *2014.8 - 2014.12*
Exchange student in School of Electrical and Computer Engineering
GPA: 4.0/4.0

Stanford University, Stanford, CA, USA   *2015.7 - 2015.9*
Undergraduate visiting research assistant in Department of Electrical Engineering
The Chinese Undergraduate Visiting Research (UGVR) Program, only 18 students selected from Mainland China and Taiwan

Courses related to my research interests:
Tsinghua: Calculus A1: (95/100), Calculus A2: (99/100), Linear Algebra 1: (93/100), Linear Algebra 2: (95/100), Physics B1: (100/100), Physics B: (100/100), Probability and Statistics: (100/100); Data Structure and Algorithms: (98/100), C++ Program Design and Training: (98/100), Interdisciplinary Research Training(in Bioinformatics): (92/100).
Georgia Institute of Technology: Stochastic Processes(graduate level): (4.0/4.0), Signals and System Analysis: (4.0/4.0), Digital Signal Processing: (4.0/4.0), Computer Vision: (4.0/4.0).

RESEARCH EXPERIENCES

Stanford University, Stanford, CA, USA   *2015.7 - Present*
Information Systems Laboratory, Department of Electrical Engineering
Research Assistant, Advisor: **Prof. David Tse**

 Project 1: *De novo* **DNA Sequence Assembly from Barcoded Reads**
- Established information theoretic bounds for a third generation sequence technology, 10X.
- Designed algorithms to take advantage of barcoded linked reads to generate better assembly than state of the art.
- Experimented on Human Chromosome 21, and boosted N50 of state-of-the-art assembler by 30%.
 Ongoing project: A *de novo* **Sequence Assembler for PacBio Reads Based on Sparse String Graph**
- Able to generate **finished** assembly at accuracy 99.9% for *E.Coli* based on sparse string graph methods.

Georgia Insitute of Technology, Atlanta, GA, USA   *2014.8 - 2014.12*
Sun Lab, School of Computational Science & Engineering, College of Computing
Research Assistant, Advisor: **Prof. Jimeng Sun**

 Project 1: Epilepsy Seizure Prediction Based on EEG Data
- Built an analytic model for epilepsy seizure prediction based on EEG data
- Participated in Kaggle Competition, achieved AUC 0.7298, and ranked top 8% (out of 504 teams)
 Project 2: Cost Estimation for Cloud-Based Analytic Machine Learning Pipeline
- Conducted experiments to do estimation for running time and cost of cloud-based analytical pipeline.

Tsinghua University, Beijing, China   *2014.2 - 2015.2*
Knowledge Engineering Group, Department of Computer Science and Technology
Research Assistant, Advisor: **Prof. Jie Tang**

Project: Continuous Time Information Network Mining for Diffusion Cascades
- Designed models that considers indirect influence and structural influence for continuous-time information diffusion in networks
- Proposed gradient descent methods for learning models and making inferences.
- Experimented on Sina Weibo dataset and increased AUC by 10% compared with baseline algorithm.

Tsinghua University, Beijing, China   *2013.7 - 2014.7*
MOE Key Laboratory of Bioinformatics and Bioinformatics Division
Research Program Member, Advisor: **Prof. Xiaowo Wang, Prof. Zhen Xie**

Project: Marvelous TALE — Towards Better DNA Editing Tools
- Developed a DNA optimizing algorithm based on genetic algorithm and multi-sequence alignment for reducing homologous recombination probability of TALE expression in *E.Coli*
- Implemented the algorithm, conducted experiments and provided data for wet-lab synthesis
- Participated in International Genetically Engineered Machine Competition(IGEM) 2014 and won Bronze Prize

PUBLICATIONS AND MANUSCRIPTS

Conference Papers

[1] **Fei Xia**, *et al.* Human-aware mobile robot exploration and motion planner. *Proceeding of IEEE SoutheastCon 2015.*

Manuscripts

[2] Hang Su, **Fei Xia**, Jimeng Sun, *et al.* Tell Me the Price First: Cost Estimation for Cloud-Based Healthcare Predictive Modeling. *to be submitted to Journal of Medical Internet Research*

[3] **Fei Xia**, Yu Xia, Jie Tang. Continuous Time Information Network Mining for Diffusion Cascades.

AWARDS

2015	Chang Jiong Scholarship (Highest honor in Dept. of Automation, 1 out of 560)
2014	Fang Chongzhi Scholarship (Highest honor in Dept. of Automation, 1 out of 560)
2014	China Scholarship Council Excellent Undergraduate Fellowship
2014	Tsinghua Sparks Program (Undergraduate High-tech Club) Membership
2013	National Southwest Associateo University Scholarship (1 out of 560)
2012	Tsinghua University Outstanding Freshman Scholarship
2011	Gold Medal of 25th Chinese Chemical Society National Chemistry Contest (Ranking 8th/92k)

TECHNICAL STRENGTHS

Programming Languages	Proficient in C/C++, Python, Matlab, Java
Tools	ROS, vim, git, cmake, gcc, LaTeX, bash, MPI, OpenMP
Research	Familiar with state-of-the-art machine learning techniques, familiar with Next Generation Sequencing data analytics.

LANGUAGE SKILLS

English	Excellent listening, speaking, reading and writing abilities
	• TOEFL iBT 109/120 (Reading 30, Listening 29, Speaking 24, Writing 26)
	• GRE Verbal 155/170, Quantitive 170/170, Analytical Writing 4.0/6.0