

# BIYE JIANG

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## EDUCATION

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**University Of California, Berkeley**

August 2013 - Present

PhD Student in Computer Science

Advisor: Prof. John Canny & Prof. Maneesh Agrawala

**Tsinghua University**

August 2009 - July 2013

B.Eng in Computer Science & Technology

## RESEARCH INTEREST

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I am interested in building toolkits for modern data scientists who will usually work on prototyping new models or running experiments on large scale dataset. Our methodology includes but not limit to using hardware accelerations like GPU, providing implementation framework for machine learning algorithms, building visual interface for real-time control and monitoring.

I believe boosting low-level machine performance and improving human productivity are both important for modern data analytic tasks. My research is also trying to bridge the gap between users and the complex machine learning systems.

## PUBLICATIONS

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Huasha Zhao, Biye Jiang, and John Canny. Same but different: Fast and high-quality gibbs parameter estimation. *arXiv preprint arXiv:1409.5402*, 2014

Zhicheng Liu, Biye Jiang, and Jeffrey Heer. immens: Real-time visual querying of big data. *Computer Graphics Forum (Proc. EuroVis)*, 2013

S Hu, Kun Xu, L Ma, Bin Liu, B Jiang, and J Wang. Inverse image editing: recovering a semantic editing history from a before-and-after image pair. *ACM Transactions on Graphics (TOG)*, 32(6):194, 2013

L Ma, Kun Xu, T Wong, B Jiang, and S Hu. Change blindness images. *IEEE TVCG*, 2013

## RESEARCH EXPERIENCE

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**Graduate Student Researcher**

Aug 2013 - Present

Advisor: Prof. John Canny

Berkeley Institution of Design

- Working on the BIDMach (A GPU accelerated machine learning library ) project.
- Fast Gibbs sampler for LDA model with real-time user control.
- A general visual interface for parameter tuning and model averaging.

**Research Intern at Microsoft Research, Redmond**

Summer 2015

Work with: Saleema Amershi, Ran Gilad-Bachrach, Mikhail Bilenko Machine Teaching Group, MSR

- Building toolkits to help data scientists debugging machine learning algorithms. Extended work from ModelTracker.

**Research Intern at Adobe**

Summer 2014

Work with: Zhicheng Liu, Mira Dontcheva, Wilmot Li, Jovan Popovic

Adobe Research

- Building toolkits to help people easily create Infographics without writing code.

**Student Cluster Challenge**

Spring 2013

*Advisor: Prof. Xiaomeng Huang**HPC group, Tsinghua*

- Exploring the best configuration for Linpack benchmark and HPC applications like Gromacs, WRF
- Performance tuning on cluster equipped with NVIDIA K20, Intel MIC.

**Stanford Undergraduate Visiting Research Program**

Summer 2012

*Advisor: Prof. Jeffrey Heer**Visualization Group, Stanford*

- Project: Interactive Visual Analysis of Large Scale Geographic Data using WebGL
- Our novel approach applies WebGL-based parallel computation to enable rapid interaction in browsers.
- Much faster for data aggregation and rendering comparing to conventional SVG approach.

**Research Intern on Image processing**

Jun 2011 - Jan 2013

*Advisor: Prof. Kun Xu and Prof. Shimin Hu**Graphics Computing Group, Tsinghua*

- Project focusing on recovering image editing operator given the edited image and the source.
- Project focusing on the interesting human vision phenomenon: change blindness. Developing saliency model to measure such difficulty.

**TECHNICAL STRENGTHS**

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**Programming Languages  
Tools, Libraries**C/C++, JavaScript, Scala, Java, R, Python, SML, Racket, MATLAB  
D3, BIDMat/Mach, WebGL, CUDA, Spark, OpenCV, MPI**TEACHING EXPERIENCE**

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**Graduate Student Instructor**

Fall 2014

–CS194/294 Introduction to Data Science

**COMPETITION AWARD**

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**ACM International Collegiate Programming Contest**

2009 - Present

–Champion in Pacific NorthWestern Region Contest (Advancing to the World Finals)

2014

–Champion in Asia Hangzhou Regional Contest

2012

**Student Cluster Challenge at International Supercomputing Conference**2<sup>nd</sup> Place 2013**Asia Student Supercomputer challenge**

Champion

2013

**Baidu A-Star Programming Competition**3<sup>rd</sup> Place out of over 30,000 contestants

2011

**Youdao Programming Competition**5<sup>th</sup> Place out of over 21,000 contestants

2010

**National Olympic in Informatics Competition**6<sup>th</sup> Place out of 295 contestants

2008