

# Tao Liu

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## Experience

- Feb 2015– **Full Stack Engineer, Onion Math, Beijing, China.**
- June 2015
- Developed the webpages for teachers to manage student and class information, view students' learning data and assign homework
  - Worked on both front-end and back-end with JavaScript, AngularJS, D3.js, Node.js, Express, MongoDB, Nginx
  - Full-stack data analytics: Data Schema Design, Data Processing, RESTful API Design, Data Visualization
- Sep 2014– **Full Stack Engineer, Volunteer, Sunshine Library Rural Digital Education Initiative, Beijing, China.**
- Jan 2015
- Designed and developed the management system for teachers to manage student information, manage student's tablet login and apps, distribute and share teaching materials
  - Worked on user study, UI design, front-end and back-end development all by myself
  - Will benefit hundreds of teachers and students in the pilot schools of rural area China
- 2013–2014 **Research Assistant, Center for Educational Informatics, North Carolina State University, Raleigh, US.**
- InVis Project: Helped designing the new interface of an educational data visualization software InVis, and built a module to process data from a physics tutor Andes for InVis
  - Student Performance Prediction: Predict student future performance on PSLC DataShop dataset using Bayesian Knowledge Tracing model and its variants
- 2012–2014 **Teaching Assistant, Computer Science Department, North Carolina State University, Raleigh, US.**
- Teaching Assistant in *Introduction to Algorithms, Multimedia Technology, Introduction to Numerical Methods*

## Projects

**Total Recursion Educational Game:** Designed and built an educational game using Unity3D to help students gain a deeper, conceptual understanding of recursion

**Tempest:** Built a video game Tempest using C++ and OpenGL

**3D Campus:** Worked on a group project to build 3D Model of university campus and implement features such as navigation, 3D wandering, and building indexing

**Multi-view Visual Search:** Worked on a project to do multi-view image search using Scalable Vocabulary Tree with Hierarchical TF-IDF scoring on Caltech256 database

**RoboGame:** Worked on a team project to build a remote-controlled humanoid robot and an automatic flat car robot in the RoboGame Competition of University of Science and Technology of China

## Skills

Programming Python, JavaScript, HTML/CSS, Matlab, Java, C/C++/C#  
Others AngularJS, D3.js, Node.js, MongoDB, 3DMax, Unity3D

## Education

- 2012–2014 **North Carolina State University, Raleigh, US.**  
PhD Student (quit), Computer Science
- 2008–2012 **University of Science and Technology of China, Hefei, China.**  
Bachelor of Science, Electrical Engineering

## Interests

- Biking Biked across America from San Francisco to Washington DC with *OneWay Foundation* to raise money for *Free Lunch for Children* organization in China
- Running Run in 2013 *Raleigh the City of Oaks Marathon*, 2012 *Yangzhou International Half Marathon* and 2011 *Beijing International Marathon*