Zhiping (Patricia) Xiao

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EDUCATION

University of California at Los Angeles, California, US *Sep 2018 – till date*

Computer Science PhD student supervised by Prof. Yizhou Sun, with GSR (Graduate Student Researcher) scholarship

Selected courses:

- Probabilistic Graphical Models for Structured Data (CS249)
- Convex Optimization (ECE236B)
- Introduction to Data Mining (CS145, A)
- Machine Learning Algorithm (CS260, A)

University of California at Berkeley, California, US *Aug 2016 – May 2018*

Computer Science MS at Berkeley Institute of Design (BiD), with GSI (Graduate Student Instructor) scholarship

Selected courses:

- Machine Learning in Education (INFO C260F, A+)
- History and Theory of New Media (NWMEDIA200, A)
- Image Manipulation and Computational Photography (CS294-26, A-)

Peking University, Beijing, China *Sep 2012 – Jul 2016*

Bachelor of Computer Science (with Highest Honor)

Selected courses:

- Aesthetics; Outline of Chinese Art; Brain and Cognitive Science; Social Psychology; Network and Crowds
- Introduction to Intelligent Technology; Data Structures and Algorithms; Algorithm Design and Analysis
- Advanced Mathematics; Linear Algebra; Probability Theory and Statistics; Set Theory and Graph Theory
- Introduction to Computer Systems; Operating Systems; Database Systems; Computer Networks

University of California at Berkeley, California, USA *Jul 2013 – Aug 2013*

Summer Exchange Student at Art School

Courses: Approach to Painting (Art102 A+); Introduction of Visual Thinking (Art8 A+)

RESEARCH EXPERIENCES

Research Assistant, Scalable Analytics Institute, University of California at Los Angeles *Sep 2018 – till date*

Advisor: Prof. Yizhou Sun

- Working on multi-task learning
- Currently focusing on graph embedding in social networks

Research Assistant, Berkeley Institute of Design, University of California at Berkeley *Jan 2017 – May 2018*

Advisor: Prof. Dan Garcia

- Working on Implementing an Automatic Quiz-question-generation Systems Used in Online Courses, so as to help students prepare for exams efficiently.
- Backend knowledge tracing model is based on DKT model

Research Assistant, Institute of Networking, Peking University *Feb 2016 – Jun 2016*

Mentor: Prof. Xiaoru Yuan

- Visualization and Visual Computing
- Financial visualization team, implemented the first version of the Bitcoin transaction visualization project

Research Assistant, Institute of Networking, Peking University *Jul 2014 – Oct 2015*

Advisor: Associate Prof. Kaigui Bian

- Applied a special math sequence to the channel-hopping model so as to enhance its behavior
- Design & implemented an Android application Zuile, an anonymous, location-based social network App
- Designed the user interface and implemented the front-end of several Apps

INTERN EXPERIENCES

Software Engineer Intern, Tianyancha Algorithm Team, Jindi Tech. *May 2017 – Aug 2017*

Mentors: Dr. Chao Liu, Mr. Hao Cheng

- Big Data Visualization of Chinese Enterprises.
- Users behaviors tracing visualization frontend & parts of the backend
- The first version of PDF2HTML converter used for displaying enterprises' documents more interactively

Research Software Engineer Intern, Internet Graphics Group, Microsoft Research Asia *Oct 2015 – Jan 2016*

Mentor: Dr. Weiwei Cui

- Applied art and psychology principles towards more precise visualization

Research Intern, Language Technology Institute, Carnegie Mellon University *Jul 2015 – Sep 2015*

Advisor: Prof. Alex Rudnicky

- Built the Tick-Tock Chinese dialog system, based on a Non-Goal-Oriented English version
- Crawled Chinese dialogue data, built the Chinese Segment Module and a Chinese Question-Answer database

PUBLICATIONS

- Weiping Song, ***Zhiping Xiao***, Yifan Wang, Laurent Charlin, Ming Zhang, Jian Tang, **"Session-Based Social Recommendation Via Dynamic Graph Attention Networks"**, in proc. of 12th ACM International Conference on Web Search and Data Mining (**WSDM2019**), Pages 555-563, Melbourne Australia, February 11 – 15, 2019.
- Weiping Song, Chence Shi, ***Zhiping Xiao***, Zhijian Duan, Yewen Xu, Ming Zhang, Jian Tang: **AutoInt: Automatic Feature Interaction Learning via Self-Attentive Neural Networks.** CoRRabs/1810.11921 (2018)
- ***Zhiping Xiao***, **"AutoQuiz: an online, adaptive, test practice system"**. Technical Report No. UCB/EECS-2018-54, May 11, 2018.
- ***Zhiping Xiao***, Siqi Li and Zachary Pardos. **"AutoQuiz: an individualized test-oriented tutoring system for students". SIGCSE 2018** (poster), Page 1089.
- Chris Johnson, Monica McGill, Durell Bouchard, Michael K. Bradshaw, Víctor A. Bucheli, Laurence D. Merkle, Michael James Scott, Z. Sweedyk, J. Ángel, ***Zhiping Xiao*****,** and Ming Zhang. **"Game Development for Computer Science Education"**, in Proc. of **2016 ITiCSE** Working Group Reports, Pages 23-44. Arequipa. Peru, July 09 - 13, 2016.
- Lin Chen, ***Zhiping Xiao***, Kaigui Bian, Shuyu Shi, Rui Li, and Yusheng Ji. **"Skolem Sequence Based Self-adaptive Broadcast Protocol in Cognitive Radio Networks"**, in Proc. of 2016 IEEE 83rd Vehicular Technology Conference (**VTC2016-Spring**), Pages 1-5. Nanjing, China, May 15 - 18, 2016.

TEACHING EXPERIENCES

Teaching Assistant, "Beauty and Joy of Computing" in UC Berkeley (CS10) *Jan 2017 – May 2018*

Instructor: Prof. Dan Garcia

- Help with preparing course materials, including contents for each discussion in the discussion sessions every week, and part of the questions in quizzes, refining midterm & final exam questions
- Answering students' questions online, in lab sessions, discussions, and during office hours

Teaching Assistant, "Data Structures and Algorithms" on Coursera and edX MOOCs *Sep 2013 – June 2015*

Instructor: Prof. Ming Zhang

- Prepared the instruction materials and quizzes
- Designed PowerPoint animations to illustrate the algorithm details

SELECTED PROJECTS

Mostly at https://github.com/PatriciaXiao

- **Twitter Ideology (2018 – till date):** Using network embedding and graph neural network methods to analyze the social network data, so as to tell the unseen entities' ideology, as well as their potential interactions with other entities.

- **SGD Convergence Analysis of NN (2018 – till date):** Modeling a simple structure of neural network and analyzing its convergence using mathematical proof following a 2-phase framework, and then run experiments to verify the conclusions.
- **AutoQuiz (2017-2018):** A training system aiming at helping students preparing for exams, implemented using Flask framework; backend design includes knowledge tracing model based on deep learning and recommending a proper question / module to do next accordingly. The MS project in Berkeley supervised by Prof. Dan Garcia.
- **Chinese Water-Ink style 2D Rendering (2016):** Render any input image to be Chinese traditional water-ink painting style
- **HoM – the home monitor (2016):** Prototype design & implementation of an IoT (internet of things) system that aiming at help parents monitoring household appliances, built on KinomaJS
- **Scientific Fortune Telling App (2015):** Age determination and face recognition algorithms. Visited by approximately 1000 users in the very first week online
- **Image Query (2015):** Image feature selection, built upon Open CV. Team leader
- **Pop-art Style 3D Cartoon Rendering (2014):** Non-Photorealistic Rendering built upon Open GL. Team leader
- **Visualizing the Nobel Prize Winners (2014):** Information visualization, built upon D3
- **Othello Chess (2013):** Human-Computer Game with Dxlib-based GUI. Developed independently

PROFESSIONAL SKILLS

- **Programming Languages:** C/C++, Python, JavaScript, Java, Scratch, SQL, SAS
- **Platforms/APIs:** Linux, Visual Studio, Photoshop, Adobe Illustrator, D3, OpenGL, OpenCV, Tensorflow, Flask

SELECTED HONORS AND AWARDS

- **EECS Graduate Student Instructor (GSI) award**, UC Berkeley, Aug 2016 – Jun 2018
- **Excellent Student Award** (top 5%), Peking University, 2015
- **Junzheng Scholarship** (Hui-Chun Chin and Tsung-Dao Lee Chinese Undergraduate Research Fund, top 1%), Peking University, 2014-2015
- **8508 Alumni Scholarship** (top 5%), Peking University, 2014
- **Third Prize** of Peking University Young Scientist Symposium on Informatics, 2015
- **Top 10 Winner** Prize (ranked No. 4 among 162 finalists), National wide "Green Shoots" Contest of College Students' Mobile App Development, Shanghai Government, 2015
- **Third Prize** of the 12th PKU Computer Application Design Contest, 2015
- **Winner Prize** of the 5th Computer - Computer Game Competition (Four Color Map Game, top 10%), Peking university, 2013
- **Third Prize** of the 12th PKU ACM/ICPC Programming Contest, Peking University, 2013
- **First Prizes** in the Annual National Drawing Competition, Ministry of Education, China, 2001, 2002, 2003, 2004, 2006 respectively
- **First Prize** in the Art and Design Competition at the International Year for the Culture of Peace, Po Leung Kuk, Hong Kong, 2000. The awarded painting was produced as a 9-minute tutorial video by a Hong Kong art institute (in Cantonese)

EXTRA CURRICULUM ACTIVITIES

Stanford University, California, USA *Jul – Aug 2010*

- *Stanford EPGY - Education Program for Gifted Youth*
- Pre-Collegiate Summer Institute: International Relations

INTERESTS

- **Arts:** Musical Instruments (Piano, Violin, Cucurbit Flute), Drawing (Chinese Painting, Acrylic Painting, Sketching)
- **Sports:** Ping-Pong (ranked 4th at PKU EECS 2015 Competition), Swimming, Skiing, Skating