YEN-LING KUO

1242 Cortez Dr #4,
Sunnyvale, CA 94086

+1-206-430-8208
yenlingkuo.m@gmail.com
http://yenlingkuo.com

EDUCATION

2009/09 – 2012/01	**National Taiwan University**, Taipei, Taiwan
	M.S. in Computer Science and Information Engineering (CSIE)
	● Thesis: A Multiagent Reasoning System for Commonsense Knowledge Integration

2011/09 – 2011/12 **Massachusetts Institute of Technology**, Cambridge, MA
Visiting Student in Media Arts and Sciences

2005/09 – 2009/06 **National Taiwan University**, Taipei, Taiwan
B.S. in Computer Science and Information Engineering, minor in Physics

RESEARCH INTERESTS

Context-aware & Multi-agent System, Commonsense Reasoning, Human Computation, Intelligent User Interface

WORK EXPERIENCE

2012/10 – Present **Software Engineer**, *Google Inc.*   Mountain View, CA
- Developing advanced shopping search features, including analysis and creation of various UIs, to better respond to shopping queries / intents on different platforms.
- Developed machine learning algorithms and crowd-sourcing infrastructure to extract product attribute from image content and product metadata.

2011/06 – 2011/08 **Software Engineering Intern**, *Google Inc.*   Kirkland, WA
- Developed algorithms and pipeline to automatically build entity attribute comparison table for any entity using large-scale crawled web data.
- Won **Third Place** in Google Kirkland intern project showcase among 20+ interns.

2010/02 – 2011/05 **Teaching Assistant**, *National Taiwan University*   Taipei, Taiwan
- Courses: *Artificial Intelligence*, *Advanced Artificial Intelligence*
- Held weekly TA hours to discuss class, homework, and term projects with students.
- In charge of both written and programming assignments for over 100 students.

RESEARCH EXPERIENCE

2011/09 – 2011/12 **Software Agent Group, MIT Media Lab**   Advisor: Prof. Henry Lieberman
- **Language Explorer**: Created a mobile language learning app that adapts to a learner's context and capability by leveraging ConceptNet and Foursquare to automatically arrange materials and generate dialogues.
- **ConceptNet 5**: Participated in the early design and implementation of multilingual knowledge base (ConceptNet 5) to integrate data from Chinese ConceptNet, ReVerb, and GoalNet. The knowledge base is widely used in many AI projects worldwide.

2008/06 – 2012/01 **Intelligent Agents Lab**, NTU CSIE   Advisor: Prof. Jane Yung-jen Hsu
- **Multi-agent Reasoning System**: Built a multi-agent system to provide commonsense reasoning results from multiple knowledge bases for application developers to use. [1,2]

- **Bridging Chinese and English Commonsense Knowledge**: Designed algorithms that create analogy between Chinese and English commonsense knowledge and generate new questions for crowd-sourcing. [3,5]
- **Human Computation for Knowledge Acquisition**: Created human computation algorithms and games on social platforms to build the largest Chinese commonsense knowledge base (over one million sentences) in the world. The collected data is contributed to MIT Open Mind Common Sense project. [4,6]

SELECTED PUBLICATIONS

JOURNAL PAPER

[1] **Yen-Ling Kuo** and Jane Yung-jen Hsu. Planning for Reasoning with Multiple Common Sense Knowledge Bases. *ACM Transactions on Interactive Intelligent Systems (TiiS-2012), Vol. 2, No. 3, Article 17, pp. 1-24*, September 2012. (*pdf*)

CONFERENCE PAPERS

[2] **Yen-Ling Kuo** and Jane Yung-jen Hsu. Capability Modeling of Knowledge-based Agents for Commonsense Knowledge Integration. In *Proceeding of the 14th International Conference on Principles and Practice of Multi-Agent Systems (PRIMA-2011), pp. 299-310*, November 2011. (*pdf*)

[3] **Yen-Ling Kuo** and Jane Yung-jen Hsu. Resource-bounded Crowd-sourcing of Commonsense Knowledge. In *Proceeding of the 22nd International Joint Conference on Artificial Intelligence* (*IJCAI-2011*)*, pp. 2470-2475*, July 2011. (*pdf*)

WORKSHOP PAPERS

[4] **Yen-Ling Kuo**, Jane Yung-jen Hsu, and Fuming Shih. Contextual Commonsense Knowledge Acquisition from Social Content by Crowd-sourcing Explanations. In *Proceeding of 2012 AAAI Workshop on Human Computation* (*HCOMP-2012*)*, pp. 18-24*, July 2012. (*pdf*)

[5] **Yen-Ling Kuo** and Jane Yung-jen Hsu. Bridging Common Sense Knowledge Bases with Analogy by Graph Similarity. In *Proceeding of 2010 AAAI Workshop on Collaboratively-Built Knowledge Sources and Artificial Intelligence* (*WikiAI-2010*)*, pp. 20-25*, July 2010. (*pdf*)

[6] **Yen-Ling Kuo**, Kai-yang Chiang, Cheng-wei Chan, Jong-Chuan Lee, Rex Wang, Edward Shen, and Jane Yung-jen Hsu. Community-based Game Design: Experiments on Social Games for Commonsense Data Collection. In *Proceeding of 2009 KDD Workshop on Human Computation* (*HCOMP-2009*)*, pp. 15-22*, June 2009. (*pdf*)

SELECTED PROJECTS

2014/10 – Present	**TaiwanUXD.org: Crowd Feedback Platform for Product User Experience Design** Initiated and building a crowd-sourcing platform for project owners to ask community members questions to refine their products based on the analytics of answers and user profiles.

- The platform is being used by many Taiwanese product developers and user experience designers in San Francisco Bay Area. System available at *http://taiwanuxd.org*.

2013/01 – Present	**MovISee: Timeline-based Visualization with Body Movement** Developing a digital platform that uses information from depth camera to create mixed reality for people to explore the selected digital files/streams and transform their body movements to customized visual outputs. Demos available at *http://movisee.com*.

- Was invited to exhibit at "The Lab Project" in Camden Arts Centre and Kingsgate Studio, London, in 2015.

2010/04 – 2011/07   **Flora: Mobile Flower Image Recognition Service**
Developed an iPhone app that recognizes flower photos taken by general public to provide information of flowers in 2010 Taipei International Flora Exposition (*demo video*).
- Winner of **2010 Hinet Telesoft Competition** and **8th YuShow Cup Creativity Award**.

HONORS & AWARDS

2012   **Best Master Thesis Award**, *Taiwanese Association of Artificial Intelligence* (*TAAI*)
Awarded annually to three master students for Best Thesis in AI research among all universities in Taiwan.

2011   **Irving T. Ho Memorial Scholarship**, *Irving T. Ho Memorial Foundation*
Awarded annually to one EE/CSIE graduate student with exceptional research performance who has been selected by NTU as an overseas exchange student.

2011   **Third Place**, *Google Kirkland Intern Project Showcase, Google Inc.*
Awarded to the top three intern projects among 20+ interns.

2011   **Google Anita Borg Memorial Scholarship**, *Google Inc.*
Awarded to female students with outstanding academic performance and leadership demonstration.

2011   **Gold Prize**, *8th YuShow Cup Creativity Award*, Taiwan
Awarded for Best Application in Technology and Design among 700+ projects across all universities.

2010   **First Place**, *2010 Hinet Telsoft Competition - Flora Expo Application Track*, Taiwan
Awarded for Best Application of Technology in Flora Expo among 600+ teams.

2010   **Outstanding Teaching Assistant Award**, *Department of CSIE, NTU*
Awarded to CSIE Teaching Assistants with highest ratings from students.

LEADERSHIP & ACTIVITIES

2015/10   **Participant & Google Interviewer**, *Grace Hopper Celebration of Women in Computing*

2014/10 – Present   **Website Developer**, *San Francisco Bay Area Taiwan UXD Gathering*

2013/01 – Present   **Tech Intern Mentor & Interviewer**, *Google Inc.*
- Weekly career discussion with mentees; hosted 1 PhD and 6 undergraduate interns.
- Conducted 80+ technical interviews to hire qualified engineers.

2011, 2013   **Reviewer** of *ACM IUI* (*Intelligent User Interface*) *2013, TAAI 2011*

2009/09 – 2011/05   **Tutor**, *Senior High School Mathematics and Physics in Taiwan*

2007/07 – 2008/07   **President**, *AIESEC* (*International Association of Students in Economics and Management, http://aiesec.org*) *National Taiwan University Local Committee*
- Initiated an overseas internship program based on social issues for NTU students.
- Hosted a leadership development conference for 14 universities in Taiwan and Asia Pacific countries in June 2008.
- Led more than 100 members to win the 2007-2008 **Best Local Committee Award**.

SKILLS & TEST SCORES

Programming Languages	C/C++, Python, Java, JavaScript, PHP, C#
Tools and Libraries	NLTK, OpenCV, OpenGL, Matlab, Processing, Protégé
Hardware Platforms	Kinect, Arduino, Intel Edison
GRE	Verbal 148, Quantitative 167, Analytical Writing 3.0
TOEFL iBT	Total 96 (Reading 25, Listening 27, Writing 22, Speaking 22)