

# Doris Jung-Lin Lee

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## EDUCATION

Ph.D. Compute Science, University of Illinois, Urbana-Champaign Aug 2016 - Present  
B.A. Physics, Astrophysics, University of California, Berkeley Sept 2013 - May 2016

## RESEARCH EXPERIENCE

**UIUC Data-Driven Design Group** Aug 2016 - Present

- Applying data mining techniques to problems in human-computer interaction and design.

**Lawrence Berkeley National Lab Scientific Data Management Group** May 2016 - Aug 2016

- Comparison of load profile clustering techniques and behavioural analytics predictions for residential electricity usage. Paper in prep. for *AAAI 2017*.

**Berkeley AMP Lab** January 2016 - Aug 2016

- Developing data visualization for Mango, a scalable genome browser for analyzing reads, variants, and features built on top of the ADAM genomics processing engine and Spark. Paper in prep. for *Nucleic Acids Research*.

**Berkeley Star Formation Simulation Research** November 2014 - Aug 2016

- Investigating the effect of magnetic fields in protostar formation. Designing parallel, adaptive mesh refinement, magnetohydrodynamical simulations on supercomputers to track the evolution of a collapsing dense core.

**Berkeley Human-Computer Interaction Group** June 2014 - Aug 2016

- Designing new educational software approaches to conventional mechanical turk classification tasks in citizen science.
- Collaborated with Google ATAP in Project Jacquard, a new e-textile technology.
- Creating low-cost fabrication technique for on-skin wearable electronics. Developed a ferro-fluid sketching technique as a new interactive interface. Refined a fabrication pipeline for rapid prototyping PCB-like circuits using flexible polystyrene plastic sheets as substrates.

**University of Illinois Laboratory for Cosmological Data Mining** May 2014 - Jan 2016

- Applying unsupervised machine learning algorithms to search for dark matter haloes in large-scale N-body cosmological simulations.
- Developed an adaptive algorithm that performs positional update on catalog sources for constructing a newer version of the RC3-cataloged galaxies. Designed a general software pipeline for creating scientifically-calibrated mosaics from large survey imaging datasets and an online database for accessing data products.

**Princeton Astrophysical Fluid Dynamics Group** Summer 2015

- Constructed global, magnetohydrodynamical disk simulations on supercomputers for testing the new *Athena++* code. Explored the effects of Papaloizou-Pringle and magnetorotational instabilities on accretion disk torus.

## PUBLICATIONS

- **Doris Jung-Lin Lee**, Joanne Lo, Moonhyok Kim, Eric Paulos, Crowdclass: Designing classification-based citizen science learning modules. *The Fourth AAAI Conference on Human Computation and Crowdsourcing (HCOMP 2016)*, Austin, Texas, November 2016.
- Joanne Lo, **Doris Jung-Lin Lee**, Nathan Wong, David Bui, Eric Paulos, “Skintillates: Towards Epidermal Interactions”. *ACM Designing Interactive Systems (DIS)*, Brisbane, Australia, June 2016. *Honorable Mention*.
- Laura Devendorf, Joanne Lo, Noura Howell, **Jung Lin Lee**, Nan-Wei Gong, M. Emre Karagozler, Ivan Poupyrev, Eric Paulos, Kimiko Ryokai, “‘I dont want to wear a screen’: Probing perceptions of and possibilities for dynamic displays on clothing”. *ACM Transactions on Computer-Human Interaction (CHI)*, San Jose, USA, May 2016. *Best Paper Award*.
- **Jung Lin Lee**, Robert J. Brunner, “Creating updated, scientifically-calibrated mosaic images for the RC3 Catalogue”(2015) [arXiv:1512.01204].

## PRESENTATIONS

- Crowdclass: Designing classification-based citizen science learning modules. [Slides]
  - 10/31/16 HCOMP , Austin, Texas
  - 10/18/16 UIUC HCI Seminar, Champaign, Illinois
  - 10/13/16 Zooniverse Seminar, Chicago, Illinois
- 06/23/16 **Doris Jung-Lin Lee**, Robert Brunner, “Pattern Discovery and Large-Scale Data Mining on Cosmological Datasets”. 6th MMDS Workshop on Algorithms for Modern Massive Data Set (MMDS). [Poster]
- 08/08/16 **Jung Lin Lee**, Kengo Tomida, James Stone, “Three-Dimensional Simulations of Instabilities in Accretion Disk Torus”. Princeton University Undergraduate Summer Research Program Final Presentation. August 2015. Report]
- 03/25/15 **Jung Lin Lee**, Robert Brunner, “Creating updated, scientifically-calibrated mosaic images for the RC3 Catalogue”. Society of Physics Students West Coast Zone Meeting. March 2015. [Poster]

## PATENTS

- *Skintillates: Towards Epidermal Electronics Interactions*. Eric Paulos, Joanne Lo, **Jung-Lin Lee**, U.S. Provisional Patent Application No.62/174,735, June 2015.
- *Individually Addressable, Highly Efficient, Trifunctional Conductive Thread*. Eric Paulos, Kimiko Ryokai, Joanne Lo, Laura Devendorf, **Jung-Lin Lee**, Nan-wei Gong, Karen Robinson, Ivan Poupyrev, June 2015.

## AWARDS

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|---|------------|
| • Computer Science Excellence Fellowship            | Oct 2016   |
| • DIS 2016 Honorable Mention Award                  | June 2016  |
| • CHI 2016 Best Paper Award                         | May 2016   |
| • UC Berkeley Student Opportunity Fund Travel Award | March 2016 |