Doris Jung-Lin Lee

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EDUCATION

B.A. Physics, Astrophysics, University of California, Berkeley — Sept 2013 - May 2016

RESEARCH EXPERIENCE

UC Berkeley AMP Lab — January 2016 - Present

- 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.

Berkeley Star Formation Simulation Research — November 2014 - Present

- 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 - Present

- Designing new educational software approaches to conventional mechanical turk classification tasks in citizen science. Paper submitted to HCOMP 2016.
- Creating low-cost fabrication technique for on-skin wearable electronics.
- Collaborated with Google ATAP in Project Jacquard, a new e-textile technology.
- 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- Developed an adaptive algorithm that performs positional update on catalog sources for constructing a newer version of the RC3-cataloged galaxies.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

- 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.*
- Joanne Lo, **Jung Lin Lee**, Nathan Wong, David Bui, Eric Paulos,"Skintillates: Towards Epidermal Interactions". Submitted to *ACM Designing Interactive Systems (DIS)*, Brisbane, Australia, June 2016.
- **Jung Lin Lee**, Robert J. Brunner, "Creating updated, scientifically-calibrated mosaic images for the RC3 Catalogue"(2015) [arXiv:1512.01204].

POSTERS/PRESENTATIONS

- **Doris Jung-Lin Lee**, Robert Brunner, "Pattern Discovery and Large-Scale Data Mining on Cosmological Datasets". Workshop on Algorithms for Modern Massive Data Sets (MMDS). June 2016. [Poster]
- **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. [Presentation; Report]
- **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

- DIS 2016 Honorable Mention Award — June 2016
- CHI 2016 Best Paper Award — May 2016
- UC Berkeley Student Opportunity Fund Travel Award — March 2016

ACTIVITIES

Organization Mentor for Google Code-in youth programming contest — 2015-2016 Season
News Editor for Association for Computing Machinery Student Magazine — Nov 2014-August 2016
Club Liaison for Society of Physics Students — Sept 2014-May 2016
Peer Mentor for Society of Physics Students — Sept 2015-May 2016
Volunteer and Summer Program Coordinator at Berkeley COMPASS Project — Sept 2013-May 2016