

Jung Lin (Doris) Lee

dorislee@berkeley.edu • dorisjunglinlee.com • GitHub: dorislee0309
(510)-731-8742 • Apt #6, 2032 Delaware Street, Berkeley, C.A. 94709

EDUCATION

B.A. Physics, Astrophysics, University of California, Berkeley

Sept 2013 - May 2016

SKILLS

High Performance Computing: Fortran, C, C++, OpenMP, MPI. 300k+ hours of HPC history.

Scripting/Data Analysis: Python, Java, Bash, Scheme, IDL, SQL, ROOT

Others: Git, HTML, PHP, JavaScript, LaTeX, Mathematica, LabView

RESEARCH EXPERIENCE

Berkeley Star Formation Simulation Research

November 2014 - Present

Advisor: Prof. Steve Stahler

- 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

Advisor: Prof. Eric Paulos

- Designing new educational software approaches to conventional mechanical Turk classification tasks in citizen science. Paper in preparation for ACM UIST 2016.
- Creating low-cost fabrication technique for on-skin wearable electronics.
- Collaborated with Google ATAP in Project Jacquard, a new e-textile technology. Showcased in Google I/O 2015.
- Developed a ferro-fluid sketching technique as a new interface for actuation and interaction.
- 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 - Present

Advisor: Prof. Robert Brunner

- Applying unsupervised machine learning algorithms to search for dark matter haloes in large-scale N-body cosmological simulations.
- Developed an algorithm that performs positional update on catalog sources for constructing a newer version of the RC3-cataloged galaxies.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. Publically released pipeline source code (ASCL:1411.006) and an online database for accessing data products.

Princeton Astrophysical Fluid Dynamics Group

Summer 2015

Advisor: Prof. James Stone

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

Lawrence Berkeley National Lab Cosmology Group

August 2014 - January 2015

Advisor: Dr. David Schlegel

- Investigated how systematics affect the imaging data quality from the Sloan Digital Sky Survey. Identified possible biases to Baryon Oscillation Spectroscopic Survey's initial target selection to further constrain cosmological parameters.

Berkeley Quantum Information Trapped Ions Group

Summer 2014

Advisor: Prof. Hartmut Haffner

- Investigated Rabi oscillations of trapped calcium ions in two-level system as a realization of quantum computer. Developed Python and LabRAD programs for laser control, experimental measurements, and real-time data analysis.

Publication

- **Jung Lin Lee**, Robert J. Brunner, "Creating updated, scientifically-calibrated mosaic images for the RC3 Catalogue". Submitted to *Astronomy and Computing*, 2015.
- Joanne Lo, **Jung Lin Lee**, Nathan Wong, David Bui, Eric Paulos, "Skintillates: Towards Epidermal Interactions". Submitted to *ACM Transactions on Computer-Human Interaction (SIGCHI)*, San Jose, USA, May 2016.
- Laura Devendorf, Joanne Lo, Noura Howell, **Jung Lin Lee**, Nan-Wei Gong, M. Emre Karagozler, Ivan Poupyrev, Eric Paulos, Kimiko Ryokai, "I don't want to wear a screen': Probing perceptions of and possibilities for dynamic displays on clothing". Submitted to *ACM Transactions on Computer-Human Interaction (SIGCHI)*, San Jose, USA, May 2016.

Presentations

- **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, and **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.

ACTIVITIES

News Editor for Association for Computing Machinery Student Magazine	Nov 2014-Present
Club Liaison for Society of Physics Students	Sept 2014-Present
Peer Mentor for Society of Physics Students	Sept 2015-Present
Volunteer and Summer Program Coordinator at Berkeley COMPASS Project	Sept 2013-Present
Outreach education and support diversity in the physical sciences.	
UC Berkeley Computer Science Scholars Program	2013-2014 Academic Year