

Yubo Su

yssu@caltech.edu • 770.527.2575
<http://www.linkedin.com/in/yubosu> • <https://github.com/yubo56>

EDUCATION

CALIFORNIA INSTITUTE OF TECHNOLOGY

B.S. IN PHYSICS,
 COMPUTER SCIENCE
 June 2016 | Pasadena, CA
 GPA: 3.74

SKILLS

PROGRAMMING

Javascript (Node.js) • Python • C/C++
 Java • Shell • CUDA • Assembly

SKILLSET

Numerical Simulation
 Systems Infrastructure &
 Optimization
 Data Management & Security

TOOLS

Matlab • Mathematica • \LaTeX
 MongoDB • PostgreSQL
 AWS (EC2, S3, etc.) • Docker
 Ansible • Jenkins • Protractor
 Git • Linux

LANGUAGES

English • Chinese • French

COURSEWORK

PHYSICS

Stellar Astrophysics
 Group Theory in Physics
 Introduction to Particle Physics
 Introduction to Solid State Physics

COMPUTER SCIENCE

Machine Learning
 GPU Programming
 Biomolecular Computation
 Networks: Communications and
 Economics
 Relational Databases

TEACHING

Ordinary and Partial
 Differential Equations (1x)
 Complex Analysis (1x)
 Freshman Physics Lab (4x)
 C++ Language Workshop (1x)

EXPERIENCE

BLEND LABS | SOFTWARE ENGINEER

July 2016–Present | San Francisco, CA

- Developed AWS S3 file management microservice. Implemented per-file encryption, set up load testing suite and stabilized all microservice deploys.
- Worked on data permissioning to enable multiple accounts on single loan, meeting specifications/deadlines for Blend's biggest customers.
- Profiled and optimized unit tests and app deploy by parallelizing tests, improving build caching and decreasing app size. Average speed up of 2x.
- Stabilized unit and end-to-end tests, reducing failures by 3x to 99%+ stability. Expanded api-level tests to reduce end-to-end test load.
- Improved scope/accessibility of data backup & restore in app.
- Node.js, Angular, Mongo, Python, Docker, Shell, Ansible, AWS services
- Career fair recruiting, phone and on-site interviewing.

RESEARCH

CALIFORNIA INSTITUTE OF TECHNOLOGY

UNDERGRADUATE RESEARCHER (COMPUTATIONAL ASTRONOMY)

Jan 2015–Jun 2016 | Pasadena, CA

- Worked with Prof Sunil Golwala to quantify detectability of kinetic Sunyaev-Zel'dovich Effect with future sub-millimeter telescopes.
- Developed a procedure to remove contaminating sources from simulated 2D telescope data conforming to accuracy bounds in optimal filtering theory.
- Code at https://github.com/yubo56/Bolocam_Source_Subtraction.
- Signal Processing, IDL, Linux

NASA JET PROPULSION LABORATORY

UNDERGRADUATE RESEARCHER (SOLAR PHYSICS)

Jun 2014–Dec 2014 | Pasadena, CA

- Worked with Dr. Paulett Liewer to generate synthetic white light images for solar phenomena simulating Solar Probe Plus (exp. 2020) view parameters.
- AGU 2014— <https://agu.confex.com/agu/fm14/webprogram/Paper18882.html>
- Raytracing, IDL, C

CALIFORNIA INSTITUTE OF TECHNOLOGY

UNDERGRADUATE RESEARCHER (COMPUTATIONAL CHEMISTRY)

Mar 2013–Aug 2013 | Pasadena, CA

- Worked with Prof William A. Goddard and Prof Jose L. Mendoza-Cortes to develop ab initio force field parameters to compute hydrogen adsorption of various COF/MOFs.
- Numerical Optimization, Monte Carlo methods

AWARDS

CALIFORNIA INSTITUTE OF TECHNOLOGY

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| 2016 | Best TA—Teaching Feedback | Among all Caltech Undergraduate and Graduate TAs. 22/24 students who responded gave perfect reviews in all categories. |
| 2016 | Outstanding Teaching Award | Nominated by students among teachers and TAs, selected by student body. |
| 2015 | NSF GRFP Honorable Mention | Proposed to study core-collapse supernovae gravitational waves using machine learning techniques. |