Husni Almoubayyed

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CONTACT & LINKS

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PROGRAMMING

Wrote reviewed & shared libraries:
• Python • C/C++ • Unix/Shell
Experienced:
• Matlab • Javascript • Mathematica
Familiar:
• CSS • HTML • R
See Github (link above) for examples

GRANTS & AWARDS

• Royal Astronomical Society (RAS) Fellowship (2015 – Present)
• Grants from Stanford/KIPAC (2017), LSST Corporation (2017), CMU Provost's Office (2017), RAS (2015)

OUTREACH

Pittsburgh Hack Hour
Organizer (2017 – Present (biweekly))
TheGIST Magazine
Specialist Editor (2015 – Present)
Science Connects
STEM Ambassador for West of Scotland (2015 – 2016)
Glasgow Science Festival
Offical Media Reporter (2015)
UKSEDS
Assistant Officer (2015 – 2016)
WikiProject Physics
Contributor (2015 – Present)

AFFILIATIONS

Royal Astronomical Society (Fellow)
LSST Dark Energy Science Collaboration (Member)
American Physical Society (Member)
Institute of Physics (Member)
LIGO Science Collaboration (Former Member)

EDUCATION

CARNEGIE MELLON UNIVERSITY Fall 2016 – Present
PhD in Physics
Pittsburgh, PA, USA

UNIVERSITY OF GLASGOW Fall 2012 – Spring 2016
BSc (Hons) in Astrophysics, with Honours of the First Class
Glasgow, Scotland, UK. GPA: 4.0 / 4.0

EXPERIENCE

CARNEGIE MELLON UNIVERSITY Sep 2016 – Present
Graduate Researcher | Large Synoptic Survey Telescope (LSST)

- Writing Python libraries/metrics to measure impact of PSF modeling errors on weak lensing shear signal to give feedback on LSST algorithms.
- Worked on numerically validated Core Cosmo Library (Python & C++)

Graduate Teaching Assistant

- Led recitations, wrote programming labs/exercises, held office hours.
- Participated in CMU's Eberly Teaching Excellence center, rated consistently >1 standard deviation above dept average.

UNIVERSITY OF GLASGOW Sep 2015 – May 2016
Undergraduate Researcher | Laser Interferometer Gravitational Wave Observatory (LIGO)

- Worked on time-series data analysis of LIGO's data (∼1.5 yrs of data).
- Used Bayesian inference to set upper limits on GW signal from the Sun.
- Presented work as a talk (U. Glasgow) and poster (U. Southampton).
- Contributed to LIGO signal searches (co-authored 2 journal papers).

Undergraduate Teaching Assistant

DURHAM UNIVERSITY May 2015 – Aug 2015
Undergraduate Researcher | Dark Energy Spectroscopic Instrument (DESI)

- Wrote parallelized modules in C & Python to mitigate bias in galaxy clustering due to redshift incompleteness caused by fiber collisions.
- Published results as talk in CosPA Symposium (KAIST, Daejeon, S. Korea)

WORKSHOPS

Citadel LLC/Correlation One Datathon
Sep 2017 | CMU, Pittsburgh, PA
In under 7 hours, I used large datasets to create a Bayesian model to predict posterior probability of cancer from DNA expression level.

LSST Corporation Hack Week
Jul 2017 | Fermi National Lab, Batavia, IL
Wrote Core Cosmology Library code, particularly MCMC likelihood analyses.

Next Gen Computational Modelling Summer Academy
Jun 2016 + Jun 2015 | U. Southampton, Southampton, UK
Presented research poster. Worked on pandas & scikit-learn packages, CUDA parallel programming, and FEM Modelling