Tarek Allam Jr.

tarek.allam.10@ucl.ac.uk
www.tarekallamjr.com
+44 07725565077

EDUCATION

PhD Astroinformatics (Astrophysics and Machine Learning)
UCL, Centre for Doctoral Training in Data Intensive Science (CDT-DIS), 2017 to 2021
Supervised by: Prof. Jason McEwen (Primary Advisor), Prof. Ofer Lahav, Dr. Denise Gorse
Thesis: Cheap Deep Learning for Photometric Supernova Classification and Beyond
CDT Courses:

- Research Software Engineering with Python
- Research Computing in C++
- Machine Learning and Big Data
- Physical Cosmology
- Statistical Data Analysis
- Topics in Data Intensive Astrophysics

MSc Computer Science
UCL, 2014 to 2016
Project: Radio Interferometric Image Reconstruction for the SKA: A Deep Learning Approach
Supervised by: Prof. Jason McEwen, Dr. Denise Gorse
Courses:

- Programming in Java
- Application Design
- Algorithms and Data Structures
- Architecture and Hardware
- Systems Architecture (Compiler Theory, Databases & Operating Systems)
- Database Theory
- Computer Music
- Artificial Intelligence and Neural Networks[1]

MSci Astrophysics Upper Second Class Honours Masters Degree (2:1)
Royal Holloway, University of London, 2007 - 2011
Project: Analytical Methods of Stellar Spectra: Stellar Spectroscopy

TECHNICAL EMPLOYMENT & EXPERIENCE

Dec 2018 – present **Webmaster**, *UCL CDT-DIS*, London.

To maintain and develop the CDT webpage. To plan and design migration from previous PHP systems to new PYTHON framework for a modern responsive design experience.

Jan 2018 – April 2018 **Data Science Student Placement**, *Transport for London (TfL)*, London. As part of the CDT-DIS program, work was carried out in a team of 4 fellow PhD students to develop machine learning methods that could be used to predict train failure. This work was supervised by academics at UCL and data scientists at TfL.

Nov 2015 – Oct 2017 **Student Training Assistant**, *UCL Information Services Division*, London.

Provided teaching support to students and staff participating in I.T training courses given by UCL Information Services. A selection of training courses include GIT, BASH, PYTHON, MATLAB, R, UNIX, HTML, CSS, SQL and LaTeX.

Oct 2014 – Jun 2015 **Back End Engineer**, *CHIME*, London

Won 3rd place in the ATOS International IT Challenge for Connected Living. Developed automatic configuration scripts of proposed product using BASH & PYTHON and worked with front-end sub-team to integrate WEBRTC into the application.

Oct 2014 – Janruary 2015 **Front-End Developer**, *UCL E-Learning*, London.

Developed a web application using HTML5 LOCAL STORAGE and JAVASCRIPT to allow teachers and other academic staff to mark coursework off-line. Conducted as part of an Application Design Module in a team of 3, a prototype application also delivered using JAVA SWING following requirements gathering and an interactive iterative design process.

Jul 2010 – Aug 2010 **Summer Research Internship**, *Royal Holloway, University of London*, London

Developed 3D visualisations of TM & TE modes that occur within cylindrical cavities of particle accelerators using PYTHON and PARAVIEW

AWARDS

- Won Honorarium, LSST Cadence Hackathon, 2018
- STFC Studentship Centre for Doctoral Training in Data Intensive Science, UCL, 2017
- Young Graduate Trainee Scholarship, Scientific Data Processing, ESA, 2017 (declined)
- 3rd Place in ATOS International IT Challange, 2015
- UCL Graduate Scholarship, MSc Computer Science 2014

PUBLICATIONS

[1] Lochner, M., Scolnic, D. M., Awan, H., Regnault, N., Gris, P., Mandelbaum, R., Gawiser, E., Almoubayyed, H., Setzer, C. N., Huber, S., et al. Optimizing the lsst observing strategy for dark energy science: Desc recommendations for the wide-fast-deep survey. *arXiv preprint arXiv:1812.00515* (2018).

[2] Malz, A., Hložek, R., **Allam Jr, Tarek**, Bahmanyar, A., Biswas, R., Dai, M., Galbany, L., Ishida, E., Jha, S., Jones, D., et al. The photometric lsst astronomical time-series classification challenge (plasticc): Selection of a performance metric for classification probabilities balancing diverse science goals. *arXiv preprint arXiv:1809.11145* (2018).

[3] Scolnic, D. M., Lochner, M., Gris, P., Regnault, N., Hložek, R., Aldering, G., **Allam Jr, Tarek**, Awan, H., Biswas, R., Blazek, J., et al. Optimizing the lsst observing strategy for dark energy science: Desc recommendations for the deep drilling fields and other special programs. *arXiv preprint arXiv:1812.00516* (2018).

[4] **Allam Jr, Tarek**, Bahmanyar, A., Biswas, R., Dai, M., Galbany, L., Hložek, R., Ishida, E. E., Jha, S. W., Jones, D. O., Kessler, R., et al. The photometric lsst astronomical time-series classification challenge (plasticc): Data set. *arXiv preprint arXiv:1810.00001* (2018).