YASIN ABDULKADIR

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EDUCATION

University of California - Los Angeles, Los Angeles, California— PhD: Physics and Biology in Medicine 09/2021-Present

University of California - Los Angeles, Los Angeles, California— Bachelor of Science: Biophysics 06/2019

RESEARCH EXPERIENCE

Graduate Student Researcher
Lab of James Lamb, PhD, Department of Radiation Oncology
University of California, Los Angeles: 08/2021 – Present

- Investigate the clinical impact of the use of deep-learning based auto-contouring algorithm for MRI-guided pelvic radiotherapy
- Developed an open-source standalone software that implements a deep-learning based auto-contouring algorithm for use in a clinical setting over a DICOM network
- Currently developing a software and workflow infrastructure for the Department of Veteran's Affairs GRID Retrospective Data Ingestion project

Research Assistant
Lab of Giovanni Zocchi, PhD, Department of Physics and Astronomy
University of California, Los Angeles: 02/2017 - 12/18

- Conducted research on mechanical control of enzymes using dsDNA as molecular spring
- Designed and synthesized a molecular probe of DNA-enzyme chimera for detection of DNA-binding proteins

EMPLOYMENT HISTORY

Clinical Physics Assistant: 10/2019 – 08/2021

UCLA Health, Department of Radiation Oncology

- Trained an auto-contouring model on the organs of the Pelvis using Keras/Tensorflow
- Deployed the auto-contouring model on the department's server as a MIM extension using Java and saved contouring workflow time by more than 70%
- Devised treatment planning workflows using the ARIA care-path application
- Established a quantitative target size thresholds for the use of merged and un-merged Octavius phantom measurements for small targets to minimize the use of Gafchromic film for patient specific IMRT QAs
- Curated and organized PQR templates for use on ClearCheck (Radformation)

- Perform monthly QAs on linear accelerators following guidelines set by AAPM's TG142 report on ViewRay, TrueBeam, TrueBeamSTx, and Tomotherapy systems
- Handle radioactive sources for LDR brachytherapy (eye plaque) treatments in the operating room and perform radioactivity surveys pre and post operation
- Perform patient specific IMRT QAs

Academic Tutor for Math and Physics: 08/2015 - 05/2016

San Diego Mesa College

- Coached students in improving their approaches when working on math or physics assignments and studying for exams
- Worked one-on-one with students and held group sessions as necessary

PUBLICATIONS

Abdulkadir, Y, Luximon, D, Morris, E, et al. Human factors in the clinical implementation of deep learning-based automated contouring of pelvic organs at risk for MRI-guided radiotherapy. *Med Phys*. 2023; 50: 5969–5977. https://doi.org/10.1002/mp.16676

Luximon, DC, **Abdulkadir**, **Y**, Chow, PE, et al. Machine-assisted interpolation algorithm for semi-automated segmentation of highly deformable organs. *Med. Phys.* 2022; 49: 41–51. https://doi.org/10.1002/mp.15351

Charters, JA, **Abdulkadir, Y**, O'Connell, D, Yang, Y, Lamb, JM. Dosimetric evaluation of respiratory gating on a 0.35-T magnetic resonance–guided radiotherapy linac. *J Appl Clin Med Phys*. 2022; 23:e13666. https://doi.org/10.1002/acm2.13666

Luximon, D. C., Ritter, T., Fields, E., Neylon, J., Petragallo, R., **Abdulkadir, Y.**, ... & Lamb, J. M.. Development and interinstitutional validation of an automatic vertebral-body misalignment error detector for cone-beam CT-guided radiotherapy. *Med Phys*. 2022; 49: 6410–6423. https://doi.org/10.1002/mp.15927

PRESENTATIONS

Abdulkadir, Yasin et al (July 2021). Measuring the Clinical Impact of the Introduction of a Novel Auto-Contouring Workflow for 0.35T MRI-Guided Pelvic Radiotherapy. Oral presentation at the American Association of Physicists in Medicine (AAPM) 63rd Annual Meeting & Exhibition, Virtual Conference.

Abdulkadir, Yasin & Zocchi, Giovanni (November 2018). Development of a Novel Molecular Probe for Quantitation of DNA Binding Proteins in Solution. Poster presented at the National Society of Black Physicists National Conference, Columbus, OH.

Abdulkadir, Yasin. & Zocchi, Giovanni (November 2017). Development of a Novel Molecular Probe for Quantitation of DNA Binding Proteins in Solution. Poster presented at the Annual Biomedical Research Conference for Minority Students (ABRCMS), Pheonix, AZ.

Abdulkadir, Yasin et al (October 2016). Synthesis of Polyesterified Derivatives of Vitamin C Utilizing a Catalytic Amount of Sulfuric Acid. Poster presented at the Society for Advancement of

Chicanos/Hispanics and Native Americans in Science (SACNAS) National Conference, Long Beach, CA.

SKILLS

- Expert in python programming (Numpy, SciPy, Matplotlib, Pandas, OOP)
- Machine Learning and Deep Learning skills (Tensorflow, Keras, Scikit-learn)
- Basic proficiency in Java (machine learning deployment)
- Computer networking
- Basic proficiency in MATLAB
- Basic proficiency in C/C++
- Basic proficiency in SQL
- Familiarity with Image analysis and treatment planning softwares in radiation oncology

SCHOLARSHIPS AND AWARDS

- UCLA Eugene V. Cota-Robles Fellowship: 2022-2023
- UCLA Competitive Edge Fellowship: 2021
- NSBP poster presentation award: 2018
- NIH MARC research fellowship: 2016 – 2018
- UCLA Regents scholarship: 2016 - 2017
- SACNAS Travel Scholarship: 2016
- San Diego Mesa College Bridges Scholarship: 2015 - 2016
- San Diego Mesa College Osher Foundation Scholarship: 2015

LEADERSHIP ROLES

Student Representative for the Physics and Biology in Medicine PhD program, University of California, Los Angeles – 09/2022 – present

Committee member of the Food Drive Initiative, University of California, Los Angeles – 09/2018 – 06/2019

Officer of the American Medical Students Association (AMSA) Chapter, San Diego Mesa College — 01/2015 - 1/2016