Olalekan Ogunmolu

Education

2019 **PhD in Electrical Engineering** , *University of Texas at Dallas*, Richardson, TX, United States.

2012 **Master of Science in Engineering in Control Systems**, *The University of Sheffield*, UK.

Publications

Azar Sadeghnejad Barkousaraie, **Olalekan Ogunmolu**, Steve Jiang, and Dan Nguyen. A Fast Deep Learning Approach for Beam Orientation Selection Using Supervised Learning with Column Generation on IMRT Prostate Cancer Patients. Under review at *Medical Physics (An AAPM Journal)*, May 2019.

Olalekan Ogunmolu, Michael Folkerts, Dan Nguyen, Nicholas Gans, and Steve Jiang. Deep BOO: Automating Beam Orientation Selection in Intensity Modulated Radiation Therapy. *Algorithmic Foundations of Robotics XIII, International Workshop* (*WAFR*), Mérida, Mexico. December 2018.

Olalekan Ogunmolu, Nicholas Gans, and Tyler Summers. Minimax Iterative Dynamic Game: Application to Nonlinear Robot Control Tasks. *IEEE/RSJ International Conference on Intelligent Robots and Systems* (*IROS*), Madrid, Spain. October 2018. DOI: 10.1109/IROS.2018.8594037

Olalekan Ogunmolu, Adwait Kulkarn, Yonas Tadesse, Xuejun Gu, Steve Jiang, and Nick Gans. Soft-NeuroAdapt: A 3-DOF Neuro-Adaptive Pose Correction System For Frameless and Maskless Cancer Radiotherapy. *IEEE/RSJ International Conference on Intelligent Robots and Systems* (*IROS*), Vancouver, BC, Canada. September 2017. DOI: 10.1109/IROS.2017.8206211.

Olalekan Ogunmolu, Nicholas Gans, and Tyler Summers. Robust Zero-Sum Deep Reinforcement Learning. *arxiv PrePrints, arxiv ID:1710.00491*, Oct 2017.

Olalekan Ogunmolu, Xuejun Gu, Steve Jiang, and Nicholas Gans. Nonlinear Systems Identification Using Deep Dynamic Neural Networks. *arxiv PrePrints, arxiv ID:1610.01439*, Oct 2016.

Olalekan Ogunmolu, Xuejun Gu, Steve Jiang, and Nick Gans. Vision-based control of a soft-robot for Maskless Cancer Radiotherapy. *IEEE Conference on Automation Science and Engineering (CASE)*, Fort-Worth, Texas, August 2016. DOI: 10.1109/CoASE.2016.7743378.

Olalekan Ogunmolu, Xuejun Gu, Steve Jiang, and Nick Gans. A Real-Time Soft-Robotic Patient Positioning System for Maskless Head-and-Neck Cancer Radiotherapy. *IEEE Conference on Automation Science and Engineering (CASE)*, Gothenburg, Sweden, August 2015. DOI: 10.1109/CoASE.2015.7294318.

Azar Sadeghnejad Barkousaraie, **Olalekan Ogunmolu**, Steve Jiang, and Dan Nguyen. Using supervised learning and guided Monte Carlo tree search for beam orientation optimization in radiation therapy. Under review at *International Conference on Medical Image Computing and Computer Assisted Intervention, XXII* (*MICCAI*), Shenzhen, China. October 2019.

Azar Sadeghnejad Barkousaraie, **Olalekan Ogunmolu**, Steve Jiang, and Dan Nguyen. Deep Learning Neural Network for Beam Orientation Optimization. To appear in *International Conference on the use of Computers in Radiation Therapy XVI* (*ICCR*), Montreal, CA. June 2019.

Olalekan Ogunmolu, Dan Nguyen, Xun Jia, Weiguo Lu, Nick Gans, and Steve Jiang. Automating Beam Orientation Optimization for IMRT Treatment Planning: A Deep Reinforcement Learning Approach. *60th Annual Meeting of the American Association of Physicists in Medicine*, Nashville, TN (*AAPM*). July 2018.

Yara Almubarak, Joshi Aniket, **Olalekan Ogunmolu**, Xuejun Gu, Steve Jiang, Nicholas Gans, and Yonas Tadesse, Design and Development of Soft Robots for Head and Neck Cancer Radiotherapy. *SPIE: Smart Structures + Nondestructive Evaluation*, Denver, CO, U.S.A. March 2018.

Invited Talks

Stanford University — Robotic Radiotherapy: Automating Position Correction in Intensity-Modulated Radiation Therapy. Department of Energy Resources Engineering, Stanford University, Stanford, CA, USA. November 2018.

Open Robotics — Soft-Robotic Position Correction Mechanisms in Intensity-Modulated Radiation Therapy. Open Robotics Foundation, Mountain View, CA, USA. January 2019.

UChicago — Robotic Radiotherapy: Automating Position Correction in Intensity-Modulated Radiation Therapy. Department of Radiation and Cellular Oncology, The University of Chicago, Chicago, IL, USA. November 2018.

ATR CNS Labs — Minimax Iterative Dynamic Game. Department of Brain Robot Interface, Computational Neuroscience Labs, ATR, Osaka, Japan. August 2018.

UTSW, Dallas, TX — A 3-DOF Neuro-Adaptive Patient Pose Correcting System For Frameless and Maskless Cancer Radiotherapy, *Physics Research Seminar Series, Radiation Oncology Department, UT Southwestern Medical Center,* Dallas, TX, USA. March 2017.

IEEE Arlington, TX — Towards automated accurate patient positioning in maskless cancer radiotherapy. *IEEE Computational Intelligence Society,* UT Arlington, TX, USA. December 2015.

Awards and honors

- **President's Teaching Excellence Award for Teaching Assistants** — Nominated Feb. 2017
- **IEEE RAS Travel Award** — August 2016
- **Ericsson Graduate Fellowship** — 2015 - 2016
- **Jonsson Scholarship** — 2014 - 2015
- **Achievement Award, University of Florida,** *(Declined)* Mech & Aerospace Engineering Dept. — Fall 2014
- **PTDF Overseas Scholarship Award [Nigeria]** ∼1.7% acceptance, — 2011 - 2012
- **Federal Government (of Nigeria) Scholarship**, ∼3.6% acceptance, — 2002
- **Ondo State (Nigeria) Scholarship** ∼10% acceptance, — 2004