

# Olalekan Ogunmolu

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## Education

- 2014–Present **PhD in Electrical Engineering**, *University of Texas at Dallas*, Richardson, TX, United States.  
2011–2012 **Master of Science in Engineering in Control Systems**, *The University of Sheffield*, UK.  
2000–2005 **Bachelor Of Science in Physics & Electronics**, *Adekunle Ajasin University*, Akungba, Nigeria.

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## Publications

**Olalekan Ogunmolu**, Adwait Kulkarni, Yonas Tadesse, Xuejun Gu, Steve Jiang, and Nick Gans. [A 3-DOF Soft Robot System For Frameless and Maskless Cancer Radiotherapy](#). *Under Review at IEEE/RSJ International Conference on Robot and Systems: To be presented at IROS 2017*, Vancouver, BC, Canada. September 2017.

**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

**Olalekan Ogunmolu**, Nick Gans, Steve Jiang, Xuejun Gu. [An Image-Guided Soft Robotic Patient Positioning System for Maskless Head-And-Neck Cancer Radiotherapy: A Proof-of-Concept Study](#). *American Association of Physicists in Medicine (AAPM) Annual Meeting*, July 2015.

**Olalekan Ogunmolu**, Autonomous Navigation of a Rotor-craft unmanned aerial vehicle using machine vision. .

MS Thesis, August. 2011. Advisor: Tony J. Dodd, University of Sheffield, England.

**Olalekan Ogunmolu**, [Single Fractional Parentage Coefficients in the sd-Shell Nuclei](#) .

BS Thesis, Nov. 2004. Advisor: Ademola Amusa, Adekunle Ajasin University, Nigeria.

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## Invited Talks

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.

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## Experience

- Spring - **Hardware Integration Intern, Amazon Robotics, North Reading , MA**,  
Summer 2016 Wrote and deployed the SLAM algorithm for the Zeus mobile robot project. Integrated Amazon Echo to the Hermes robot for speech-based navigation. Designed and integrated the software architecture for the web-based client and server system for the Hermes mobile robot. Wrote the ROS codebase for GYGES Stations line scanners. Wrote test cases, and defined test procedures for 2D/3D sensors required on the new stow and sort robot development stations at Amazon FCs. Modeled and designed 3-D sensor plates test material in hand sketches and SolidWorks .

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## 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)** Fall 2014  
Mech & Aerospace Engineering Dept.
- **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

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## Computing

- Programming** C++, Python, Lua, MATLAB/LabVIEW – in that order.
- **C++:** the point cloud, opencv, boost, eigen e.t.c. libraries; c++11/14 standards.
  - **MATLAB, LabVIEW:** system identification, control, signal processing, fpga, robotics modules/toolkits
  - **Python** SciPy tools including: [matplotlib](#), [numpy](#), and [scikit learn](#).
  - **Neural Network Frameworks:** **Torch 7** [[cutorch](#), [cudnn](#), [cunn](#), the [display](#), [rnn](#) and [conv-net](#)], and **pytorch**. Familiar with **caffe**, and **tensorflow**.
- \*Nix OSes** Ubuntu, Debian. Familiar with openSUSE.
- ROS** ROS Hydro/Indigo/Jade/Kinetic for vision, estimation, function approximation, and control tasks.
- Web** HTML, Markdown. Familiar with socket.io, node.js, and express.js,

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## Select OpenSource Contributions

- savgol** C++ Implementation of Savitzky-Golay Differentiation Coefficients and Filters. (Available at <https://github.com/lakehanne/savitzky-golay>)
- pcl** The Point Cloud Library (Available at <https://github.com/PointCloudLibrary/pcl>).
- ensenso** Drivers for running the ensenso camera with the point cloud library. (Available at <https://github.com/lakehanne/ensenso>)
- rnn** Recurrent Neural Networks in Torch7. (Available at <https://github.com/element-research/rnn>)
- gps** Catkinized version of Levine et. al's guided policy search algorithm in ROS Indigo (Available at <https://github.com/lakehanne/gps>).

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## Other interests and activities

- Reviewer, International Federation of Automatic Control World Congress (**IFAC**) Jan 2017
- Most-viewed writer in Control Engineering, **Quora** Oct/Nov. 15; Mar/April16. Dec. 16 - Now.
- Most-viewed writer in ROS, **Quora** June - August 2016
- Teacher Badge [Stackoverflow.com](#) 2015 – Present
- Scholar Badge [Stackexchange.com](#) 2015 – Present