

Thomas DeSilvio

Phone: (440)-503-9711 | Email: tgd15@case.edu | Biology & Computer Science Double Degree

EDUCATION

Lakeland Community College, Kirtland, Ohio

May 2019 – May 2020

- + Post-Baccalaureate in mathematics, including linear algebra and multivariate calculus

Xavier University, Cincinnati, Ohio

May 2014 – December 2018

- + Bachelor of Science in Biology
- + Bachelor of Arts in Computer Science
- + Member of University Scholars Honors Program

RESEARCH & PUBLISHED WORK

Stanford University, Palo Alto CA

Segmentation of Colorectal MRIs with Deep Learning

May 2020 - Present

- + Developing generative adversarial networks that leverage multi-site data for medical image synthesis of prostate magnetic resonance images (MRIs)
- + Collaborating with Stanford Medicine Department of Urology to create fully convolutional networks for binary segmentation of tumor in prostate cancer

Case Western Reserve University, Cleveland OH

Segmentation of Colorectal MRIs with Deep Learning

November 2017 - Present

- + Developing fully convolutional networks for binary and multiclass segmentation of tumor in colorectal cancer MRIs before and after neoadjuvant chemoradiotherapy
- + First author on conference paper presented at SPIE Medical Imaging 2019 about implementing region-specific convolutional networks to segment the rectal wall in post-treatment colorectal MRIs
 - o **Thomas DeSilvio**, Jacob T. Antunes, Prathyush Chirra, Kaustav Bera, Jayakrishna Gollamudi, Raj M. Paspulati, Conor P. Delaney, Satish E. Viswanath, "Region-specific fully convolutional networks for segmentation of the rectal wall on post-chemoradiation T2w MRI ", SPIE Medical Imaging 2019, vol 10951

A Review of Machine Learning in Obesity

May 2017 – October 2017

- + Co-authored review paper investigating various machine learning techniques applied to obesity data
 - o DeGregory, K. W., Kuiper, P., **DeSilvio, T.**, Pleuss, J. D., Miller, R., Roginski, J. W., Fisher, C. B., Harness, D., Viswanath, S., Heymsfield, S. B., Dungan, I., and Thomas, D. M. (2018) A review of machine learning in obesity. Obesity Reviews, doi: 10.1111/obr.12667.
- + Developed deep learning networks to classify patient blood pressure and percentage body fat in the NHANES Database curated by Centers for Disease Control and Prevention and the National Center for Health Statistics

INDUSTRY EXPERIENCE

Business Tech Services Consultant

June 2016 – Present

- + Created 10+ custom Amazon Alexa skills for 5 national sports arenas to easily access architectural drawing data
- + Designed and developed 2 Wordpress intranets used by 1000+ employees for document management, company communication, and employee trainings
- + Developed payroll system using Zoho Creator Databases for 15+ employees that saved client \$7,000-\$9,000 per month and reduced the controller's payroll workflow by 2 days
- + Established Zoho Creator database and Wordpress interface for construction company to track and manage time for 100+ employees
- + Developed Zoho Creator database for sports arena to track 500 + stagehand payment information
- + Instituted novel workflow for automatically extracting and processing attributes from AutoCAD drawings and SketchUp models into databases for inventory management and cost analyses

CORE SKILLS

Python
Node.js

MATLAB
GPU Computing

Keras
Wordpress

PyTorch
Zoho Creator

SQL
Git Repositories

ADDITIONAL EXPERIENCE

Xavier University Resident Assistant

August 2015 – May 2018

- + Supervised over 140+ residents spread across 7 buildings to foster a positive living-learning community
- + Created, promoted, and hosted 80+ large-scale programs for residents to encourage healthy lifestyles, social interaction, and self-awareness
- + Mentored and trained 15+ new RAs
- + 1 of 14 RAs on the Resident Assistant Advisory Board, acting as liaison between Residence Life administration and staff of 64 RAs

Xavier University Technology Committee

August 2016 – May 2017

- + Appointed to committee by Xavier University to augment technological infrastructure
- + Evaluated proposals for classroom hardware /software upgrades and assisted in creating budgets for these initiatives