

Andrew Morgan

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Curriculum Vitae

Education

Youngstown State University, Youngstown, OH
Expected Graduation with Honors in May 2017
Bachelor of Engineering, Current GPA 3.97 (President's List & Dean's List)
Major: Electrical Engineering Computer Digital Option
Bachelor of Science, Current GPA 3.97 (President's List & Dean's List)
Major: Computer Science
Minor: Mathematics

Completed Honors Courses: Differential Equations (3 s.h.), Calculus General Physics 1 (4 s.h.), Basic Digital Computer Circuit (3 s.h.), General Chemistry 1 (4 s.h.), Honors Engineering Concepts (2 s.h.), Honors Engineering Computing (2 s.h.), Introduction to Honors Seminar (1 s.h.), Honors Introduction to Engineering (1 s.h.), Sixth Sense Honors Seminar (1 s.h.), Advanced Logic Design (3 s.h.), and Honors Thesis (1 s.h.).

Work Experience

Honors Engineering Teaching Assistant / Engineering Lab Manager **August 2014-Present**

YSU College of Science Technology Engineering and Mathematics

- Aid students in the understanding of fundamentals learned throughout their coursework
- Develop problems that require advanced critical thinking to prepare students for future courses
- Assisted in the creation of the initiative to expose First Year Engineering students to 3D Printing Technologies in 2014 and 2015
- Exemplify the relationships between upperclassman and first year students to facilitate learning within the First Year Engineering community
- Act as an Honors Ambassador for First Year STEM students to help connect Honors College practices into coursework and service projects on campus

Biz3D Instructor – Week-long 3D Printing Class**Summer 2016**

Youngstown Business Incubator

- Developed a curriculum for providing applicable 3D modeling/printing knowledge to the students for later utilization.
- Construct memorable examples to 3D Printing practices in the workplace.
- Facilitated learning through applying foundational design exercises to the course.
- Provide hands-on experience for High School students to have the opportunity to work with new and upcoming technologies.
- Aide students in building a professional network beyond what was currently available.

Auburn REU on SMART UAVS**Summer 2016**

Auburn Department of Computer Science and Software Engineering

- Developed a Ballistic Parachute Recovery System
 - o Help meet new FAA regulations
 - o Worked independently with publishable paper at end of work
- Construct a “See and Avoid” System
 - o Built using OpenGL and OpenCV
 - o Designed flight simulator and avoidance tool
 - o Easy implementation onto Unmanned Aerial Vehicles
- Worked in teams of two to meet required deadlines.
- Facilitated communication in meetings and presentations.

Test Engineering Co-operative**Summer 2015**

ABB Inc., Wickliffe, OH

- Tested ABB Power Systems and Power Generation (PSPG) modules and components for corresponding tasks of implementation
- Constructed the largest test system ever built by the ABB Research and Development laboratory at the Wickliffe site
- Organized and coordinated co-op fundraising for the WE CARE charity events to include Rainbow Babies Children’s Hospital and Woman’s Safe

Research Assistant**August 2014-Present**

YSU Department of Computer Science and Information Systems;

Dr. Bonita Sharif

Worked extensively with Dr. Sharif on the Koli Workshop 2014 paper:

- Performed a research case study in accordance to the Koli Workshop 2014 based out of Koli, Finland
- Project on tracking eye gaze data of novice programmers’ progression of reading and interpreting source code data
- Took the lead on constructing a paper published and peer reviewed within the workshop
- Transcribed eye gaze data into phases, or epics, used to interpret

- cognitive cycles within understanding of source code
- Conducted eye tracking sessions to expose YSU students to eye tracking technologies
- Collected independent eye gaze data from YSU students to compare within paper constraints

YSU Department of Industrial Engineering; Dr. Kerry Meyers

Worked comprehensively with Dr. Meyers on submitting a paper to the Global Journal for Engineering Education exposing student interests to 3D printing technologies

- Co-authored a paper submitted to the Global Journal for Engineering Education I of which extracted the interests of First Year Engineering students on 3D printing technologies and the design iteration process
- Constructed lessons and presentations to introduce students to the fundamentals of Fused Deposition Modeling (FDM) 3D printing
- Composed surveys and questionnaire's regarding experience and interesting on Solid Modeling
- Acted as an ambassador for 3D printing between students and the STEM college in an initiative to enhance awareness of the technology advances presented at YSU

Estates Maintenance Supervisor

Summer 2011-Summer 2014

Warren Fabricating Inc., Warren, OH

- Maintained multiple estate groups to include landscaping and general maintenance
- Supervised landscaping teams of which were constructed on a daily basis to complete a given task
- Specialized in exotic and seasonal plants that required attention on a day-to-day basis

Language Skills:

Intermediate Reading and Speaking capabilities in *Greek & Spanish*
Proficient programmer in C, C++, Java, Matlab, Python, Arduino

Awards/Honors:

Youngstown State University Scholars Program USXXI Fall 2013
Youngstown State University Full-Funded Academic Merit Scholarship

Barry M. Goldwater Scholar 2016 Spring 2016

Tau Beta Pi Scholar 2016 Summer 2016

Ohio State Senate Recognition Award Summer 2016

Ohio State House of Reps. Recognition Award Summer 2016

YSU Honors College: Leadership Award	Spring 2016
YSU Honors College: Most Professional Student	Spring 2014 Spring 2015
ΦΚΦ National Honor Society	Spring 2015-Present
ΠΜΕ National Math Honor Society	Spring 2015-Present
TBΠ National Engineering Society	Fall 2015
YSU Sponsored Goldwater Applicant	March 2015
Top Students in Excellence Dinner Student Representative of STEM	Fall 2014
STEM Leadership Society	Fall 2013-Present
Dean's List/ President's List	Fall 2013-Present
Seven Seventeen First Year Student Scholarship	Fall 2013
National Honor Society	Spring 2012

Research:

Published Research:

- Meyers, K., Morgan, A., and Conner, B. "3D Printing in a First-Year Engineering Design Project". American Society for Engineering Education National Conference, New Orleans, 2016.
- Meyers, K., Morgan, A., and Conner, B. "Using 3D Printing to Understand the Design Iteration Process". Global Journal of Engineering Education, Vol. 18, Issue 1, 2016.
- Morgan, A., Sharif, B., and Crosby, M. "Understanding a Novice Programmer's Progression of Reading and Summarizing Source Code". Koli Workshop 2014. Koli, Finland. 2014.

Current Research:

- Morgan, A., Jones, Z., and Chapman, R. "Computer Vision "See and Avoid" Simulation using OpenGL and OpenCV". Auburn Research Experience for Undergraduates on SMART UAVs 2016. Study Coordinated with the Department of Computer Science and Software Engineering. Auburn, AL.
- Morgan, A., and Chapman, R. "Ballistic Parachute Recovery System for Unmanned Aerial Vehicles (UAVs)". Auburn Research Experience for Undergraduates on SMART UAVs 2016. Study Coordinated with the Department of Computer Science and Software Engineering. Auburn, AL.

Patent:

One Year (Provisional) Patent completed in April 2015 for device intended for utilization in the medical industry. Further iterations are in progress for hopes of filing 20 year patent upon completion.
Patent Application Number: 62/146,434

Presentations:

Almujil, Dhiaaadeen, Eunni, Morgan, and Poullas. "SumoBot: the algorithm and creation to a sumo wrestling robot for the IEEE Student Activities Conference April 2015." Presentation at Youngstown State University's QUEST: a Forum for Undergraduate Research. Youngstown State University. Youngstown, Ohio. 7 April 2015.

Meyers, Morgan, and Conner. "3D Printing in a First-Year Engineering Design Project." Poster Presentation at the American Society for Engineering Education National Conference. New Orleans, LA. 28 May 2016. Poster Presentation at National Collegiate Honors Council National Conference 2016. Seattle, WA. 14 Oct. 2016.

Morgan. "Experimental Physics: Calculating the Radius of the Earth Using Solar Displacement and Global Positioning Systems." Oral Presentation at Youngstown State University's QUEST: a Forum for Undergraduate Research. Youngstown State University. Youngstown, Ohio. 1 April 2014.

Morgan, Jones, and Chapman. "Computer Vision "See and Avoid" Simulation using OpenGL and OpenCV". Oral Presentation at Gulf Coast Undergraduate Research Symposium. Rice University. Houston, Texas. 22 October 2016.

Morgan, Poullas, and Rogenski. . "Phase Plane Analysis." Oral Presentation at Youngstown State University's QUEST: a Forum for Undergraduate Research. Youngstown State University. Youngstown, Ohio. 1 April 2014.

Morgan, and Pabst. "Scholar Wars: Enhancing Community through the Spirit of Competition." National Collegiate Honors Council (NCHC). Metropolitan State University of Denver. Denver, Colorado. 6 November 2014.

Morgan, Phifer, and Stecker. "SumoBot". Oral Presentation at Youngstown State University's QUEST: a Forum for Undergraduate Research. Youngstown State University. Youngstown, Ohio. 5 April 2016.

Morgan, Sharif, and Crosby. "Understanding a Novice Programmer's Progression of Reading and Summarizing Source Code." Koli Workshop 2014. Koli, Finland. November 2014. National Collegiate Honors Council (NCHC). Chicago, Illinois. 13 November 2015.

Organizations & Interests:

YSU Honors College: Honors Trustees Treasurer	<i>June 2015-Present</i>
YSU Honors College: YSU Honors Ambassador	<i>August 2015-Present</i>
YSU Honors College: YSU Honors Student Orientation Leader	<i>August 2014-Present</i>
IGNITE: Student Orientation Leader	<i>August 2016</i>
Tau Beta Pi Webmaster	<i>May 2016-Present</i>
YSU Honors Academic Journal "The Emperor" Editor / Reviewer	<i>September 2015-Present</i>
YSU STEM 3D Printing Outreach Organizer	<i>December 2014-Present</i>
YSU Honors College: YSU Honors Harding Elementary Pen Pals	<i>September 2013-Present</i>
Phi Kappa Phi Chapter 143: Student Vice President	<i>March 2015-Present</i>
YSU Student Government Association: College of Science Technology Engineering and Mathematics Representative	<i>April 2015-May 2016</i>
YSU Student Government Association: Academic Affairs Committee	<i>April 2015-May 2016</i>
YSU Student Government Association: Co-organizer of the Last Lecture	<i>April 2015-May 2016</i>
Academic Senate Student Representative	<i>September 2015-Present</i>
YSU Top Students in Excellence Representative	<i>October 2014</i>
Academic Senate Representative: Student Academic Grievance Subcommittee, Integrated Technologies Subcommittee	

	<i>September 2015-May 2016</i>
Treasurer of Café Lingua Student Language Organization	<i>August 2014-May 2016</i>
Treasurer of YSU Orthodox Christian Fellowship	<i>August 2013-Present</i>
Secretary of YSU Student Chapter of the Institute of Electrical and Electronic Engineers	<i>August 2014-May 2016</i>
Ugandan Water Project Volunteer & Member	<i>November 2013-May 2016</i>
Poverty Awareness in Youngstown Volunteer	<i>April 2015-Present</i>
YSU Honors College Coordinator of Scholar Wars	<i>July 2014-Present</i>
YSU Information Security and Ethical Hacking Association Member	<i>August 2014-Present</i>
YSU Honors Relay for Life Team	<i>April 2014-Present</i>
YSU Honors College Coordinator of Shantytown	<i>October 2013-October 2014</i>
Fowler Fire Department Volunteer	<i>October 2011-March 2014</i>