

Aaron C. Brzowski

SOFTWARE ENGINEER · STUDENT

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Education

Western Kentucky University

Bowling Green, KY

B.S. IN ROBOTICS ENGINEERING, GPA: 3.44

Aug. 2014 - May 2018

- Received the Tier One Scholarship which provides full funding for tuition, housing, meals, and books
- Pursuing a summer internship with JPL focused on autonomous flight.

Skills

Programming Wolfram Language, C++, JAVA, Bash, LaTeX, PHP

Tools Mathematica, Robot Operating System (ROS), LabView, Git

Languages English, Basic French

Experience

NASA Ames Research Center

Mountain View, CA

RESEARCH ASSOCIATE

Jun. 2016 - Aug. 2016

- Contributed to SAFE50 project which focused on ensuring safety of UAV flight under 50 feet altitude in urban areas.
- Implemented camera and range sensor interfaces and managed data acquisition for inflight sensor data collection using Robot Operating System (ROS)
- Developed protocol for indoor flight using AprilTags as camera detectable waypoints, as well as 2D obstacle avoidance using a ring of 8 outward facing IR range sensors.
- Managed planning algorithm for autonomous indoor flight using waypoints.

Kentucky Department of the Blind

WKU, Bowling Green, KY

MATHEMATICS TUTOR

Mar. 2016 - May 2016

- Assisted a visually impaired student with coursework pertaining to mathematics and mechanical engineering.
- Provided assistance in reading coursework and homework assignments, and also administered exams.

WKU IT TopperTech

WKU, Bowling Green, KY

STUDENT CONSULTANT

Jan. 2015 - Jan. 2016

- Diagnosed and repaired software, hardware, and network issues on Apple computers and all machines running the Microsoft Windows operating system.
- Remedied heavy malware infections, repaired corrupt operating systems and machine malfunction, and disassembled machines to diagnose hardware failures and hardware replacement.

WKU Physics Department

WKU, Bowling Green, KY

TEACHING ASSISTANT, UNIVERSITY PHYSICS 1

Jan. 2014 - May 2014

- Assisted students in performing physics experiments in mechanics and thermodynamics which stress the fundamental definitions and laws developed in the lecture course.
- Oversaw the development of students gaining experience in computerized data acquisition and data analysis using modern techniques and equipment.

Carol Martin Gatton Academy/Western Kentucky University

Seoul, S.Korea

STUDENT RESEARCHER

Aug. 2012 - May 2014

- Attended number one ranked high school in the U.S. as ranked by Newsweek and The Daily Beast, 2012-13, and by Daily Beast in 2014
- Studied the relativistic effects of the Alcubierre Drive and its possible implications on space travel.

Purus/Open World Cause

United States

DIRECTOR AND CO-FOUNDER

Aug. 2013 - Present (currently consulting position only)

- Led organizing efforts for volunteers and international connections.
- Provided access to education for hundreds of school children, and access to clean water to nearly 1000 people in rural Nepal.

Honors & Awards

Hack K State Hackathon

Kansas State University

WINNER, THIRD PRIZE

April 2016

- Developed a web app in Wolfram Language to document and analyze unidentified plants using classifier functions and machine learning.
- Utilized images of plants as input from smartphone camera.
- Wrote custom API function within Wolfram Language to return info about poisonous factor, species, and brief description of plant.

CatHacks II

University of Kentucky

WINNER, THIRD PRIZE AND BEST USE OF WOLFRAM TECHNOLOGY

March 2016

- Utilized a Leap Motion controller to sense motion in 3D space and transformed user input in realtime into dynamically visualized plots in Mathematica.
- Options included drawing 3D curves and analysis, drawing a signature and storing it as a PDF file, and classifying multiple user's signatures to determine difference between multiple signatures using machine learning algorithms.

CatHacks I

University of Kentucky

WINNER, SECOND PRIZE

March 2015

- Developed and marketed a media player called "Cadence" that runs on the Android OS.
- Designed to learn musical preferences through a weighted algorithm.

Presentation

Quarterly Briefing Presentation

Mountain View, CA

PRESENTER TO NASA AMES RESEARCH CENTER DIRECTOR

Aug. 2016

- Presented research regarding indoor flying autonomous quadcopters and their safety in urban areas to NASA Ames Research Center director, Eugene Tu.

International Society for Technology in Education Conference

Atlanta, GA

PRESENTER FOR ISTE 2014, INTERNATIONAL IMPACT SPEECH

Jul. 2014

- Presented work that Purus had done in the prior year about water filtration system distribution and international impact of humanitarian efforts.

Program Committees

2016 **Founder and Lead Organizer**, 1st Hack The Hill Hackathon

Western Kentucky University

2015 **Volunteer**, CatHacks 2 Hackathon

University of Kentucky