hanusaj@gmail.com
www.ajhanus.com

AJ Hanus

Experience

Calchub
Spring 2019 - Present   *Ames, IA*
Co-founder
- Utilized React JS, Mobx, and TypeScript to develop an online engineering workspace for creating and sharing calculations
- Worked with Amazon Web Services for hosting the website and storing data including a CI/CD pipeline
- Developed an algorithm to morph LaTeX into a custom format
- Participated in Iowa State University's AGEI incubator program

The Boeing Company
Summer 2019   *Seattle, WA*
Data Science Intern
- Improved the current model by implementing a character to vector algorithm for part numbers on a bill of materials database
- Created a knowledge feed engine using React JS for collecting aviation questions and answers to train a question answering system and hosted it using Kubernetes and Docker
- Developed an online form using React JS for collecting errors in the close out processes of training programs which saved 40 working hours a week for other employees

Virtual Reality Application Center
Fall 2017 - Present   *Ames, IA*
Undergraduate Research Assistant
- Explored utilizing passive haptic interactions in multiuser virtual reality training environments
- Developed visualizations for large datasets to recognize trends between multi-dimsional datasets
- Utilized the Unity 3D game engine to develop applications for the Oculus Rift, HTC Vive, and Microsoft Hololens
- Presented at the IEEEVR 2019 international conference in Osaka, Japan and received Runner-up in the 3DUI contest
- Published a paper as second author in the I/ITSEC 2019 conference held in Orlando, FL

SPIRE REU Summer Program
Summer 2018   *Ames, IA*
Undergraduate Research Assistant
- Created a data visualization learning tool using React and E3 to help underdeveloped communities better understand indoor climate control theories
- Presented the project at the 2018 Iowa State Poster Symposium
- Conducted a pilot study to determine the usefulness of the tool
- Published a research paper of the results

Iowa State University
Spring 2017 - Fall 2017   *Ames, IA*
- Created weekly study sessions to aid student comprehension and exam results
- Hosted exam preparation sessions attended by 70+ students
- Developed lesson plans based on missed or highly questioned material during lecture

Education

Iowa State University, expected May 2020
B.S. in Computer Engineering,
Minor in Leadership
GPA: 3.98

Newman Catholic High School, May 2015
Mason City, Iowa
GPA: 4.0 - Salutatorian

Projects

Calchub
An online math editor for engineering calculations. On Calchub, you are able to be search, execute, modify, and share math with anyone. Live at calchub.co.

Boeing Part Similarity
Identified similarities between airplane parts using a large aviation dataset, python, and Tensorflow. The similarities were then used to identify the impact new parts would have on a maintance manual.

Escape Room in Virtual Reality
Created a multi-user escape room in a virtual environment for the HTC Vive with the Leap Motion for tracking hands. Implemented passive haptics to increase emersion. Received Runner-up at the IEEEVR 3DUI contest.

Activities and Awards

- IEEEVR 3DUI Contest Runner-up
- Iowa State Honors Program
- Studied abroad in Hong Kong
- Vice President of the ISU Sailing Club
- Executive Member for Iowa State's Out of the Darkness Organization
- Led on-campus Mental Awareness Event ("*Lending a Helping Hand*")
- Published in the I/ITSEC 2019 conference preceedings

Technical Skills

React, Mobx, TypeScript, Node JS, Python, Unity, Tensorflow, C++, C#, Javascript, C, Java, Virtual Reality, Mixed Reality, AWS, CSS, Linux, OpenCV, HTML, Bootstrap, Blender, D3, MatLab, SQL, JQuery