John M. Born

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Education

University of Illinois at Urbana-Champaign August 2016 - May 2020
B.S. Computer Engineering GPA: 3.82/4.00

Relevant Coursework

- Digital Signal Processing (ECE 310, in progress): Introductory DSP course
- Production Computer Graphics (CS 419, in progress): Develop a ray tracer from the ground up
- Interactive Computer Graphics (CS 418): Explore projection, shading, rasterization, etc. using WebGL
- Computational Linguistics (LING 406): Overview regexes, n-grams, sentiment analysis, text classification

Honors

- Chancellor's Scholar - 2% of students per class, fulfillment of honors contract
- Provost Scholarship - 30 students per class, full tuition for 4 years

Work Experience

USGS (United States Geological Survery)
Programming Assistant July 2018 - Present

- Develop FluEgg (a fluvial asian carp egg simulator) to quantify negative impacts of invasive species
- Ensure FluEgg is maintainable, well-documented, object-oriented, and Pythonic
- Create FRMC GUI (PyQT) and backend (calculates the toxicity of fire retardants for US Forest Service)

University of Illinois at Urbana Champaign
ELA (Engineering Learning Assistant) August 2018 - Present

- Lead freshmen by answering questions/concerns and providing useful resources
- Maintain a structured classroom environment while also engaging students through activities

Activities

Personal Projects
EEG Headset Controller March 2018 - Present

- Parsing EEG headset brainwave frequency spectra to control video games in place of traditional controllers

Poker Tracker App July 2018 - Present

- Creating Android application to track poker games in place of physical poker chips

Swarm Robotics Research
Research Assistant February 2017 - Present

- Iterate on 3D CAD models for bots used to compare physical tests with simulations or swarms
- Explore theoretical models of robotic systems (including consensus, linkages, sensors, etc.)

iRobotics
Member September 2016 - Present

- Collaborate with team members to design and build a 30lb. battle-bot utilizing SolidWorks CAD
- Maintained information on the iRobotics website through basic HTML modifications

Treasurer June 2017 - June 2018

- Approve robotic part purchases totaling to approximately $20,000 annually
- Track sponsorships and ensure funds are allocated correctly by keeping organized account balances

Skills

Programming Languages

- Proficient in Python, Java, C++
- Limited experience in JavaScript, HTML, Matlab, x86 Assembly

Other Skills

- Laboratory skills: multimeter, oscilloscope, function generator, Arduino
- Languages: Spanish (professional working proficiency)
- Software: WebGL, PyQT, Git / Gitlab / Github, Visual Studio Code, Linux CLI, Android Studio, SolidWorks