John "Jack" Baumann

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EDUCATION

Class of 2019	**University of Dallas**, Irving, TX
	Bachelor of Science in Computer Science, Cum Laude
Class of 2015	**Clear Lake High School**, Houston, TX
	Graduated Magna Cum Laude on the Distinguished Program

RELEVANT WORK EXPERIENCE

Real-Time Software Engineer, *the Boeing Company*, Houston, TX (June 2019 – Present)
- As a team we develop real-time software to simulate the various systems aboard the P-8 Poseidon and MQ-25 Stingray.
- We each periodically write model requirements based on design documents furnished by customers, then plan, design, and track their implementation via Atlassian tools (Confluence, Jira, BitBucket).
- Development is largely in C++, C, and Python, with C++ FakeIt Unit Tests and C# Automated Testing.
- Continuous Integration is handled with Jenkins pipelines via Groovy scripts and artifacts are deployed to Artifactory.
- We thoughtfully implement Product Line Engineering (PLE) and standard data bus protocols like MIL-STD-1553 and ARINC 429.
- We test and integrate changes on lab systems and Peer Review every change with Subject Matter Experts / Product Owners.
- We practice Agile, for which I have filled in as Scrum Master on occasion.
- I hold an active U.S. Security Clearance and NASA Identity.

GIS / Software Engineering Intern, *Jeppesen, a Boeing Company*, Englewood, CO (May 2018 – June 2019)
- Maintained and upgraded a suite of Java applications which GIS Analysts used to update a database of Airport maps.
- Wrote ArcPy scripts and SQL queries to update, access, and map geodatabases.
- Used ESRI technologies such as ArcMap, ArcCatalog, ArcPy, and shapefiles.
- Drafted design documents, software tests, release notes, and flow/logic diagrams for new algorithms and features.

Software Engineering Intern, *AtLink Communications*, Houston, TX (June 2015 – August 2015)
- Designed and developed, alongside two other interns, a database, web application, and Android application to to view and filter the locations of utility lines using a Google Maps interface and an augmented reality camera overlay.

RESEARCH

Navigation Algorithms, with Michael Bolot and Dr. David Andrews, *University of Dallas*, Irving, TX (August 2018 – May 2019)
The goal of this research project was to improve existing path-finding technologies by implementing newer path-finding algorithms (particularly A*) and improving them to account for finer details such as the variance in traffic within different lanes on a road. We used OpenStreetMaps and QGIS to source relevant road data.

NOTABLE PROJECTS

Links to and descriptions of each of my personal, school, and hackathon projects can be found on my website.

Texas Historical Markers Map, *Mobile Apps Class*, November 2017
I created an iOS app using Swift which used Google Maps to display pins at the locations of each Texas Historical Marker. The View Controller displayed detailed information about each Historical Marker and opened navigation to the marker's coordinates in Google Maps.

StockTalk, *HackRice 2016*, January 2016
A multi-player investment game in which the stock prices of companies are controlled by the positive and negative tweets each company receives. I worked on the front end of the web app which used Python to scrape and analyze tweets, JavaScript to control the game, and HTML and CSS for the web user interface. StockTalk won the PROS sponsor award for best real-time price-variable game.

HOUalert, *Houston Hackathon*, May 2015
My team designed and developed a mobile and web application that allows Houston residents to track 311 reports, active police and fire dispatches, severe weather alerts, and get information regarding emergency preparedness and evacuation routes. I worked on the Android app, HTML scraping, and the integration of the Esri GIS. HOUalert received a prize from Esri for the "Best Use of ESRI Technology" at the civic Houston Hackathon.

Software Engineering Team Projects, *Business Professionals of America (BPA)*, 2013-2015
I captained a BPA Software Engineering team of four people which developed *Project Electus*, a side scrolling platformer RPG, and *Trapomino*, a Tetris inspired game that placed 2nd at nationals. I lead the team, wrote documentation and presentations, and programmed in Java.

ACTIVITIES AND LEADERSHIP

International Collegiate Programming Competition
I practiced with and competed on a programming team (UD1) for the South-Central USA Regional Qualifier each year from 2016-2018. In this contest, teams of 3 are given 11-12 problems and 5 hours to solve as many as possible without access to the internet. The problems have memory and time limits and heavily test a team's knowledge and ability to implement and modify various algorithms. Leaderboards: 2018 (13th place out of 71 teams), 2017 (27th/76), and 2016 (22nd/68)

Association of Computing Machinery (ACM)
From 2015-2018 I held officer positions as the Treasurer, Secretary, and Vice Chair in the UD Computer Club. As an officer I planned events and fundraisers, led meetings, and filled out paperwork. Our ACM Student Chapter coordinated together on programming projects, organized hackathons and competitions, and gave presentations on computer hardware and programming topics.

Business Professionals of America (BPA)
As a BPA member from 2013-2015, I attended two regional, one state, and one national Leadership Conferences.

University Interscholastic League (UIL)
I competed on my High School's UIL Computer Science team from 2013-2015.

Boy Scouts of America
I earned the Eagle Scout Award in 2014 from Troop 595 and served as Senior Patrol Leader in the Fall of 2013. I continue to assist the Troop and it's sister Troop, 596, where I can.

AWARDS AND ACHIEVEMENTS

Fall 2015 – Fall 2017	University of Dallas Honor Roll each semester, plus Dean's List in Fall 2016
2015	AP Scholar with Distinction – College Board
November 8th, 2014	Eagle Scout – Boy Scouts of America Troop 595

SKILLS

Proficient in: Python, C++, C, Java, Git, HTML, CSS, Markdown
Worked in: Perl, C#, Groovy, JavaScript, SQL, Esri, ArcPy, ArcGIS, Google Maps, QGIS, AWS (S3, Route 53, EC2), Bash, Lisp