

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

WORK EXPERIENCE

Senior Software Engineer, *Lockheed Martin Aeronautics*, Fort Worth, TX (July 2024 – Present)

- I am a Product Owner and Senior developer on an F-16 Mission System Software team.
- We are working to upgrade the decades old Mission Computer to a modern system. This involves converting old functional Ada code to modern Object Oriented C++ and redesigning/refactoring the code base to make improvements where possible.
- I lead my team by planning future work, documenting progress, drafting class and sequence diagrams, publishing quality code, performing thorough peer reviews, mentoring younger developers, answering questions, and defining process improvements.
- I interface regularly with management and other teams to ensure our program’s expectations, dependencies, etc. are met.

Real-Time Software Engineer, *the Boeing Company*, Remote / Houston, TX (June 2019 – June 2024)

- As a teammate, I developed real-time software to simulate the systems aboard the P-8 Poseidon, CST-100, and MQ-25 Stingray.
- Periodically wrote model requirements based on design documents furnished by customers, then planned, designed, and tracked their implementation via Atlassian tools (Confluence, Jira, BitBucket) and GitLab.
- Development was largely in C++, C, and Python, with C++ FakeIt Unit Tests and C# Automated Testing.
- Updated Continuous Integration tools with Jenkins pipelines via Groovy scripts and artifacts are deployed to Artifactory.
- Thoughtfully implemented Product Line Engineering (PLE) and standard data bus protocols like MIL-STD-1553 and ARINC 429.
- Tested and integrated changes on lab systems and Peer Reviewed every change with Subject Matter Experts / Product Owners.
- Held a 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 view and filter the locations of utility lines using a Google Maps interface and an augmented reality camera overlay.

SKILLS

Proficient in: C++, Python, Ada, Git, Markdown, Gears, Wireshark, Agile, SAFe (Scaled Agile), ARINC 429, MIL-STD-1553, Linux

Worked in: C, C#, Perl, Java, Lua, Groovy, HTML, CSS, JavaScript, SQL, Esri, ArcPy, ArcGIS, Google Maps, AWS (S3, Route 53, EC2), Bash, Lisp

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](#).

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.

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