**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 planed, 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 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](https://github.com/JackBmann/nav_research) 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](http://jackbaumann.us/projects).

**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 ap](https://github.com/bdeloeste/hackrice-stockapp)p which used Python to scrape and analyze tweets, JavaScript to control the game, and HTML and CSS for the web user interface. [StockTalk](https://devpost.com/software/hackrice-stockapp) 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](https://github.com/JackBmann/houalert) 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](https://devpost.com/software/houalert-us) 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*](https://github.com/JackBmann/project-electus), a side scrolling platformer RPG, and [*Trapomino*](https://github.com/JackBmann/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](https://scusa18.kattis.com/standings/) (13th place out of 71 teams), [2017](http://ld2017.scusa.lsu.edu/scoreboard-regional/) (27th/76), and [2016](http://ld2016.scusa.lsu.edu/scoreboard-regional/) (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](http://udallas.acm.org/) 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](https://meritpages.com/jackbaumann), 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