

Jay Thomas Blankenship

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OBJECTIVE

Passionate and versatile software engineer specializing in full stack development, graphical programming, and database integrated applications. Proficient in model-free learning, machine learning, networked applications, and a comprehensive understanding of data structures. Committed to crafting creative and efficient software solutions through precise, annotated functions and robust system structures. Seeking a challenging role in the software industry as part of a dynamic development team.

EDUCATION

University of Illinois at Chicago, College of Engineering

Bachelor of Science in Computer Science Major: Computer Science - 2021

Master of Engineering in Machine Learning and Artificial Intelligence 2023 - 2024

TECHNICAL Skills

Languages: C++, C, C#, SQL, Java, JavaScript, Kotlin, JSP, PHP, WebGL/OpenGL, HTML, Python, XML, CSS, F#, Perl

Applications: Visual Studio (2015/2017/2019/2022), Visual Studio Code, Unreal Engine, Visual Studio Code, IntelliJ, MySQL Workbench, Postman, JIRA, Android Studio, NetBeans, Eclipse, Microsoft Office, MATLAB, Arduino IDE, Postman, Wireshark, Bash, Putty, Winscp

Proficiencies: Android Development, Client Server Applications, Desktop Applications, GitHub, Perforce, Source Tree, UI Development, Spring Framework, Java Web Development, Networking, Multithreaded Applications, Object-Oriented Programming, Web Applications

WORK EXPERIENCE

Centuria Government Contractor for National Oceanic and Atmospheric Administration

Title: Scientific Applications Programmer/Database Administrator - Security Clearance

August, 2022 - Present

Work Accomplishments

- (Java, HTML): Developed a new Java class object, replacing FTP with HTTPS for file retrieval. Enabled file scanning and downloading via HTTPS, significantly enhancing system security and efficiency. Implemented an offline hashmap to track file dates, optimizing bandwidth usage.
- (Python, SQL, APIs): Utilized expertise in Python, SQL, APIs to integrate owner information from netCDF files into the glider stats email and SQL database. Ensured accurate data integration and seamless communication between systems.
- (cron job): Modified a cron job through Linux automated services to update RT parameters more frequently, improving system performance and real-time parameter updates.
- (Python, .sh shell scripts): Developed a backfilling script in a shell script to address inconsistencies in the monthly archive process for high-frequency radar data. Additionally resolved missing active stations, ensuring data integrity in the archives.
- (php, html, js): Resolved issues with images not appearing on the ISEAU website. Identified and fixed code problems related to library function updates, restoring full functionality to the website.
- (html, js, css): Made changes to an NDBC website and Real Time website, improving user experience and website integrity by rectifying HTML tag issues and updating links and text.
- (C, C#, C++): Rectified an issue with the COMPTILT asciiId parameter in partner systems (NEMIS), ensuring seamless integration and enhanced data processing efficiency.
- (HTML, JS): Updated multiple websites from Google Analytics 360 to GA4, resolving issues across four different websites.
- (JS, HTML, .xml): Addressed map display issues on the HFradar website caused by another software configuration problem.
- (C, C#, C++): Resolved data discrepancies from a particular buoy due to a sensor installation error, rebuilding and testing the RealTime software for the fix.
- (Python, .sh): Adapted archive staging for backfilling extremely large data, resolving file accessibility issues and engaging with HFradar government administrators for resolution.
- (file permissions lots of linux commands): Addressing inaccessible HFradar radial and netcdf files by investigating file permission changes, finding resolutions, implementing found resolutions.
- (php, js, jquery/css): Updated references and attributes in the test software version and updating references found in production software, including database connections and security updates.

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PROJECTS

Personal Website - *VisualStudio code, CSS, SCSS, HTML, JS*

- Independently creating javascript functionality to view multiple pages
- Creating CSS, SCSS, HTML, and Javascript code to enable website functionality
- <https://jayblankenship.github.io/>

Snake Game Personal Project - *VisualStudio, Unreal Engine, C++, C#*

- Client Server networking enabled and replication is accurate
- Custom classes in addition to efficient use of data structures for position tracking
- An ai controller class controlled with a neural network built from scratch
- <https://jayblankenship.itch.io/snake3d>

Full Stack Personal Project - *VisualStudio, Unreal Engine, SQL, Kotlin, C++, C#*

- Independently researching and learning how to make unreal engine desktop networked applications
- Communication between a Kotlin api, C++ front end and an SQL database pipeline
- https://youtu.be/KFLK5z65_UE

Artificial Intelligence - *Python*

- Multiple projects with model free learning as well as a concentration on q learning , Constraint satisfaction problems and markov decision problems

Computer Graphics - *Webgl/opengl*

- Multiple projects including texture rendering as well as lighting phong (Fragment Shader) and Gouraud (Vertex Shader) as well as HTML functionalities including camera movement and movement hierarchy
- <https://www.youtube.com/watch?v=tDC5uYWP46Y>

Mobile Development Projects - *Android Studio, java, xml, utilizing android operating system in applications*

- MultiThreaded Application, extending Adapters, Multiple user interface projects, background / foreground operations such as a music player, Calls to data outside of the application, GridLayout, ListView, Fragment Dynamic Layout, Recycler View
- <https://youtu.be/tVhGKrNwsOE>

Arduino Projects - *C, Arduino IDE*

- <https://youtu.be/dru9aRT1ymE>, <https://youtu.be/tBVrF4xesHs>, <https://youtu.be/aEhLb6oM6Yw>, <https://youtu.be/-qtSMZYF1bI>, <https://youtu.be/-CaYCynKQqU>, <https://youtu.be/z3veZUWCGD0>

Computer Design, Data Structures, Computer Networking - *VisualStudio, C++, C, Python*

- Binary trees (AVL Tree), graphs, hash tables, garbage collectors, page files, Bellman Ford's, Dijkstra's, networked programs handling lag and latency with acknowledgement messages validating delivery

Java Projects, and Desktop - *Eclipse, Java, css*

- Using Java and css in order to make gambling games that were multithreaded as well as client server networked

Calculus Project - *VisualStudio, Unreal Engine, C++, C#*

- In unreal engine with C++ I made a simulation for a calculus project with the mathematical function accurately represented on the user interface
- <https://youtu.be/QK9LbkapbUk>