**William Thomas Hahn**

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| 400 McCutcheon Drive  West Lafayette, IN 47906 | | +1 (317) 910-7559  [hahnw@purdue.edu](mailto:hahnw@purdue.edu) | | |  | <https://github.com/hahn-will>  [www.linkedin.com/in/whahnt](http://www.linkedin.com/in/whahnt) | |
| **EDUCATION** | |  | | | | |  |
| **Purdue University, West Lafayette, IN** | | | | | | | ***Expected May 2022*** |
| Bachelor of Science in Computer Science | | | | | | |  |
| **Carmel High School, Carmel, IN** | | | | | | | ***May 2018*** |
| Academic Honors Diploma, Technical Honors Diploma, AP Capstone Diploma | | | | | | | ***GPA: 4.17/4.00*** |
| **AP Exams** | | | | | | |  |
| 5 on: AP Computer Science A, AP Calculus AB, AP Calculus BC, AP Capstone Research | | | | | | |  |
| **TECHNICAL SKILLS** | **Ranked: 1 (Learning) – 10 (Proficient)** | | | | | |  |
| **Languages:** Java (9), C++ (7), C (6), Bash (6), HTML & CSS (4), GLSL (3)  **Software/Tools:** Eclipse IDE (9), Unix/Linux (7), Git (7), Arduino (7) Visual Studio (6), VIM (5), OpenGL (3), DirectX (3), SFML (3), CUDA (2), OpenCV (2) | | | | | | | |
| **PROJECTS** | | | | | | |  |
| **Neural Network: *AP Capstone Research Project, Independent Study Project*** – C++   * Researched the impact complex training data has on neural network training times and found a positive correlation between complexity and training time * Implemented training data efficiency comparison * Integrated a polymorphic program to generate neural networks from a predefined layout file * Designed and implemented mathematical function generating algorithm   **3D Map Generation: *Independent Study Computer Science Project*** – C++   * Rendered map of 3D cubes where the user could move and view the map * Implemented Voronoi noise to generate the map and used the DirectX API to render on the screen   **Fractal Generation: *Personal Project*** – Java   * Generated Mandelbrot and Julia set renderings in 4k * Implemented in conjunction with “Image Manipulation” to modify the images for more pleasing visuals   **Image Manipulation: *Personal Project*** – Java   * Manipulated images through 2D array traversing * Implemented algorithms to modify contrast, color, and splice images   **STL File Viewer: *Personal Project*** – C++   * Displayed STL files for previewing before they would be sent to a slicer for 3D printing * Implemented OpenGL 3D rendering within the SFML API to generate a wireframe representation of the object   **Screen Recorder: *Personal Project*** – Java, C/C++   * Implemented an algorithm which continuously captured screenshots. * Designed User Interface to preview and modify video * Integrated OpenCV and Java Native Interface within the project to increase the possible framerate by 87.5% | | | | | | |  |
| **RELEVANT COURSEWORK** | | | | | | |  |
| **Current:** Fundamentals of Computer Science, Programming in C, Multivariate Calculus  **Past:** AP Computer Science A, AP Calculus AB, AP Calculus BC, Computer Programming 1, Introduction to Engineering Design, Principles of Engineering, Digital Electronics | | | | | | |  |
| **ACTIVITIES AND VOLUNTEER WORK** | | | | | | |  |
| **Association of Information Technology Professionals**  **Tutoring**  **Carmel Jazz Band**  **Carmel Concert Band**  **Carmel Marching Band**  **Lifepointe Church Westfield Mission Trip** | | | Member  Math, Chemistry, Computer Science  Trombone Player  Principle Euphonium  Leadership Team Member  Participant | | | | ***2018 – Present***  ***2016-2018***  ***2014-2018***  ***2014-2018***  ***2013-2017***  ***July 2016 & July 2017*** |
| **ACCOMPLISHMENTS AND AWARDS** | | | | | | | |
| National Honor Society  AP Scholar with Distinction  National AP Scholar | | | | ***May 2017-May 2018***  ***2018***  ***2018*** | | | |