Jessica Hernandez

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EDUCATION

Georgia Institute of Technology   **Atlanta, GA**
Bachelor of Science in Computer Science, GPA: 3.47/4   *August 2020 – December 2024*
- **Concentrations**: Intelligence (AI) and Modeling & Simulation
- **Double minor**: French and Health & Medical Sciences (HMED)
- **Relevant Coursework:** Design and Analysis of Algorithms, Object Oriented Programming, Artificial Intelligence, Machine Learning, Differential Equations, Intro Malware Rev Eng

Technische Universität Berlin   **Berlin, Germany**
Study Abroad Program in Computer Science   *May 2022– July 2022*

PROJECTS

GBA Moon Lander Game | *C, Docker*   **Atlanta, GA**
Game development for a Game Boy Advance emulator in C   *November 2022*
- Completed a solo programming project in one week, focusing on C-based collision detection and low-level programming
- Designed and integrated custom graphics and implemented a functional finite state machine for game control and logic

CNN - Classification of MRI Images | *Python, NumPy*   **Berlin, Germany**
Trained a classifier that estimates extent of dementia progression in a patient using an MRI scan   *July 2022*
- Developed a model with two Conv2d layers, Max Pooling, and dropout layers to address overfitting
- Achieved a testing accuracy of 65% by addressing overfitting through dropout layers and optimizing hyperparameters
- Collaborated to preprocess a dataset of 6400 MRI images, implementing a custom weighted random sampler

Drone Delivery Service Program | *Java, JavaFX*   **Berlin, Germany**
Simulation of a drone delivery service program in Java 8   *May 2022 – July 2022*
- Collaborated with group of 4 to complete a large-scale 5000+ lines of code programming project in an agile environment
- Enhanced software reliability by authoring extensive unit test cases, significantly reducing bugs and errors in the program
- Minimized user input errors by implementing a JavaFX GUI with drop-down menus, data validation checks, and tooltips

Guinea Worm Disease Filter Bucket Prototype   **Atlanta, GA**
Helped the Carter Center eradicate Guinea Worm Disease (GWD) in the country of Chad   *August 2020 – December 2020*
- Conducted in-depth research to identify key human and geographical factors contributing to the spread of GWD
- Employed an iterative design approach, grounded in engineering design principles, to develop and refine the prototype
- Collaboratively engineered the "Filter Bucket": a cost-effective filtration device for water collection and purification

EXPERIENCE

Peer-Led Undergraduate Study (PLUS)   **Georgia Tech Tutoring & Academic Support (TAS)**
Drop-in Tutor   *January 2024 – Present*
- Offered 4 hours/week of immediate tutoring in high-demand courses like Linear Algebra and Multivariable Calculus

Mentor   *August 2023 – Present*
- Facilitated bi-weekly staff meetings for updates, additional training, and fostering community and teamwork among staff
- Effectively managed and coordinated the scheduling of PLUS sessions for a group of mentees

Leader   *August 2022 – Present*
- Improved student academic performance by ½ letter grade through structured bi-weekly review sessions for a class of 1300
- Led large-scale exam review sessions for approximately 300 students, collaborating with two other PLUS leaders
- Developed session materials in collaboration with the head TA and course professor, ensuring alignment with the course

Chip-Scale Power Supercapacitor Research   **Georgia Tech Research Institute (GTRI)**
Research Assistant   *August 2021 – December 2021*
- Worked with PhD student Julia Allen to fabricate supercapacitors to provide energy storage for microelectronics systems
- Utilized clean room tools to manufacture silicon wafers with carbon nanotubes, facilitating the assembly of supercapacitors
- Collaborated with team members to present information to members from NASA's Marshal Space Flight Center

SKILLS

- **Programing:**   Java, MATLAB, Python, C
- **Tools**   CircuitSim, Docker, VM VirtualBox, Git Bash, GitHub, Linux
- **Awards:**   NSA HackGT 9 challenge with over 1300+ competitors – **2nd place**
- **Certifications:**   ITTPC (International Tutor Training Program Certification) II
- **Languages:**   French (fluent), Spanish (native), English (native)