Aryan Taywade

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EDUCATION

University of Washington; Seattle, WA **Expected Graduation: June 2027**

Sophomore, Bachelor of Science in Computer Science

Relevant Courses: Linear Algebra, Discrete Math, Hardware-Software Interface, Software Design and Implementation, Data Structures and Parallelism, Statistics, Intro to Digital Design (FPGA Programming), Systems Programming

EXPERIENCE

Machine Learning Intern

FAMU-FSU College of Engineering + Chauhan Laboratory, Tallahassee FL **Dec 2021 – Aug 2022**

- Developed machine learning models in TensorFlow to predict antibiotic resistance capabilities from microorganisms exposed to long-term radionuclide pollution, achieving a **success rate of 62.16%**.
- Created a training dataset with **more than 10k entries** using information contained antibiotic resistance gene databases, radionuclide exposure information, and bioinformatic pipelines/tools
- Contributed to public health initiatives by providing insights into heavy metal contamination influencing antibiotic resistance trends in microorganisms

Bioinformatics Intern **Mar 2021 – Oct 2022**

FAMU Chauhan Laboratory, Tallahassee FL

- Used computational analyses to predict antibiotic/virulent traits in our model organism
- Drafted manuscript in an *American Society of Microbiology Journal*: https://doi.org/10.1128/mra.00753-22

TECHNICAL PROJECTS

Husky Satellite Lab **Oct 2024 – Present**

- Developed and optimized centroiding and star-ID algorithms in the LOST suite for attitude determination of the HuskySAT-2 CubeSat mission.
- Tried implementing a rolling-ball background-subtraction step—using a separable sliding-window min/max approach—to remove large-scale illumination gradients before thresholding, reducing false detections..
- Participating in the University Nanosatellite Program competition, presenting MORE LOST innovations and demonstrating improved pointing accuracy.

MealMate, *DubHacks 2024* **Oct, 2024**

- Developed an iOS app that generates personalized grocery plans for chosen recipes based on user budget, nutritional goals, and real-time grocery data.
- Built a recommender system using the Kroger API and Epicurious dataset to suggest optimal grocery items
- Deployed the backend via Flask and Heroku, enabling real-time data retrieval and processing.
- Integrated Swift for the frontend, ensuring a seamless user experience.

Azul AI **Aug 2024 – Sep 2024**

- Developed an AI opponent that can play the boardgame Azul better than a human can. **Wins 87% of the time** against “competent” human players
- Developed the GUI in C++ using Allegro and implemented Minimax algorithm with α-β pruning and iterative deepening for strategic decision-making within time and memory constraint

Snake (*CSE 369 Project)* **Aug 2023 – Jun 2024**

- Wrote the game Snake in SystemVerilog HDL on a Cyclone V FPGA Board and a 16×16 Bicolor LED Expansion Board with low resource utilization.

SKILLS

- **Languages**: C, C++, Java, Python, C#, Javascript, TypeScript, HTML, CSS, Swift, SQL, MATLAB, R, SystemVerilogHDL
- **Frameworks & Tools:** Tensorflow, Pytorch, Flask, Intel Quartus Prime, AWS, Heroku, Git, VSCode, IntelliJ, GDB, BLAST, PATRIC, RGI, ModelSim, Linux, WSL