



VIJAY SHANMUGAM

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EXPERIENCE

President

blair3sat

 September 2019 – Present  Rockville, Maryland

- Lead a nonprofit developing a satellite to determine localized ionospheric electron density
- Directed simulations for the radio frequency team and worked to raise money from sponsors to fund our satellite development.

ASPIRE Intern

Applied Physics Lab

 June 2022 – August 2022  Laurel, Maryland

- Automated HDL development workflow using Continuous Integration and Deployment with Atlassian Bamboo.
- Created containerized HDL build and verification environments to standardize testing procedures.

Data Science Intern

LendingPoint

 June 2021 – August 2021  Remote

- Used data science to optimize conversions on sales funnel for eBay working capital loans.
- Created SQL queries to perform user level analytics with data from Salesforce, Mouseflow, DOMO, Google Analytics, Plaid, and others.

PROJECTS

Influencer Marketplace


AffMark

 October 2020 – January 2021

- Created a web app with Next.js and Supabase (PostgreSQL) to connect social media influencers with brands for sponsorship opportunities.

Crop Growth Prediction

Machine Learning & Data Science

 June 2020 – August 2020

- Utilized Tensorflow to create a Machine Learning model that predicted year over year crop growth based on geospatial and climate data.
- Interfaced with Google Earth Engine to compile and sanitize datasets.

COURSEWORK

- Analysis I (Calculus BC)
- Analysis II (Multivar & Diff Eq.)
- Applied Statistics
- Optics
- Thermodynamics
- Quantum Physics
- Introductory Physical Chemistry
- Earth & Space Sciences
- Biology
- Algorithms and Data Structures
- Analysis of Algorithms
- Modeling and Simulation
- Computer Graphics
- Future of Programming Languages
- AP Language & Composition
- AP World History

EDUCATION


Science, Mathematics, and
Computer Science Magnet Program


Montgomery Blair High School


 September 2019 – June 2023


ACHIEVEMENTS


 **USA Computing Olympiad Platinum**
Qualified with perfect score on Gold

 **American Invitational Math Exam**
Scored a 9 on the 2022 AIME I

 **American Math Competition**
AMC 12 Distinguished Honor Roll

 **Exploravision Honorable Mention**
Paper: Manufacturing In Microgravity

 **HealthHacks 1st Place Winner**
Won chronic disease & popular choice

 **National Merit Semifinalist**
Qualified with PSAT Score

STRENGTHS & SKILLS

Machine Learning Web Development
Mobile Development Data Science
Mathematical Modeling GIT FPGA
Embedded Software Computer Vision
Tensorflow Pytorch NLP CI/CD
React.js GNURadio React Native
DevOps Docker Kubernetes

Python Javascript C++ SQL R
Verilog Matlab Simulink HTML
CSS Java Linux Bash Fortran

ACTIVITIES

Machine Learning Club

Co-founder & Captain

 September 2021 – Present

Blair Sysops

System Operator

 October 2021 – Present