Joshua Markle

Aspiring software developer with experience in app development, leadership, and machine learning.

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PROJECTS

Milestone
- An app to assist student drivers to earn a driver's license by tracking driving hours and walking through test prep
- Present app to Congress in 2023

Keyboard Layout Optimization Research
- Built software ontop of AI to visualize and optimize layouts for any arrangement of keys. Written in C++ and visualized with OpenGL; New layouts w/ 200% improvement over QWERTY

EXPERIENCE

Full Stack Developer
Virginia Discovery Museum   2025
- Led development of a volunteer management system using Firebase (Auth, Firestore, Hosting) as a part of a 4-person team
- Designed and implemented both front-end and back-end features
- Handled majority of the programming and system architecture

Python Programming Club President
Governors School for Science & Technology   2022–24
- Taught 30+ members DSA, Git, and ICPC topics
- Hosted 2 contests w/ 60+ participants. Led oversight of contests and judging (DOMJudge AWS Server)

Game Development Club President & Founder
Governors School for Science & Technology   2022–24
- Grew membership to 20 students and setup 10+ workshops
- Put up schoolwide event showcasing 5 student driven games

Tech Lead (Volunteer)
Yorkminster Presbyterian Church   2023
- Setup and managed stage lighting, audio systems, and music controls for performances. Led/trained team of 4

AWARDS

Winner of the Congressional App Challenge
US House of Representatives   2023
- Selected as one of 374 national winners out of 11,334 participants
- Present app at congressional symposium and met with VA's 1st district representative, Rob Wittman, to talk about the future of technology

Xerox Award for Innovation and Information Technology
University of Rochester   2023
- Award for notable achievements in the field of emerging technology + $20,000 scholarship

Outstanding Research Award
NHREC Science Fair   2023
- Winning science fair project, Humans vs. AI
- Found meaningful difference in pattern recognition between humans and neural networks when both are trained on IQ tests

EDUCATION

University of Virginia
B.S. Computer Science
Expected 2027
Activities & Leadership:
- 1st Place ICPC 2024 Mid-Atlantic USA Regional Div. 2
- Virginia Collegiate Game Jam #1

Relevant Coursework:
- Data Structures & Alg
- Computer Science Org
- Software Development
- Machine Learning
- Cybersecurity
- Computational Physics

Governors School for Science & Technology
HS Diploma | CS Strand
- Validictorian

SKILLS

Languages
C/C++
Python
GNU Bash
HTML/CSS
JavaScript (React, Node.js)
Flutter (Dart)
R (Data Analysis)

Developer Tools
(Arch) Linux
NeoVim
AWS
Git