Dean C. Gumas

Highly creative & innovative computer engineer with rich experience & strong math/communication skills. Seeking to join a development team pushing the leading edge of gaming technology & applications.

Highlights

- *Summa Cum Laude - Virginia Tech College of Engineering, May 2020*
- *Computer Engineering - Machine Learning Concentration – Class Rank #2 - 3.9 GPA*
- *Active gaming development underway, playable and downloadable from http://deangumas.github.io*
- *2 years Artificial Intelligence & Robotics Research*
- *4 years Software Engineering Internships*
- *Pratt School of Engineering Award (Virginia Tech)*
- *4 years VT Hacks Programming Hackathon (3rd place 2017)*
- *2 years NASA Can-Sat Competition Team*
- *4 years Nationally Top-ranked Thomas Jefferson Governor's School for STEM*

Computer Skills & Languages

- C/C++/C#, Python, JavaScript, Java, Julia, Ruby, HTML, Matlab
- Unreal Engine, Unity
- Blender, Autodesk Inventor, AutoCAD, Fusion
- Windows, Linux, Mac OS
- Microsoft Word, Powerpoint, Excel

Education & Experience

Virginia Tech College of Engineering, May 2020 | BS Degree | Computer Engineering Major

- Machine Learning - engineering concentration (overall GPA 3.9)
- Math minor emphasis (Math GPA 4.0)
- Applied Software Design (C++), Video Game Design (JavaScript), Embedded Systems Design (C)
- Complex Analysis, Advanced Calculus, Discrete Math, Differential Equations, Linear Algebra

Graduate & Undergraduate Intern | L3Harris | July 2016 - Present

- Full Year & Summer Internships at L3Harris with focus on satellite-systems software development
- 2020: Designed & applied machine learning methods for object classification & tracking
- 2019: Created & analyzed algorithms to detect GPS spoofing & non-GPS-based global positioning leveraging LEO satellite communications
- 2018: Designed & developed a low power microcontroller-based method to control a satellite radio, innovatively reducing radio transmission time & power consumption
- 2017: Designed & developed Python & shell scripts to create a communication beam map for the Iridium NEXT satellite constellation
- 2016: Used Python & shell scripts to create a task-scheduling & administration tool

CanSat | Virginia Tech | 2018 – 2020

- Competition team designing, building & testing a small-size satellite payload to be launched & descend 1000m safely while transmitting telemetry data from internal sensors
- Led electronics subsystems development of ground station software to communicate & calibrate the CanSat while analyzing & displaying telemetry data in real time

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Undergraduate Research Assistant | Virginia Tech | 2018 – 2020

- Supported Professor Andrea L'Afflitto in the Advanced Control Systems Lab (ACSL) developing robot control & aerial robotics algorithms, https://lafflitto.com/research.html
- Designed & developed mapping & ellipsoid algorithms for drone navigation, as well as motor control for a 5-dof robotic arm designed to lift objects of various sizes, shapes & masses

Undergraduate Research Assistant | Virginia Tech | 2017 - 2018

- Worked as a research assistant under ECE Professor Hsiao on his project GameChangineer, a website designed to create video games from a "game plan" written in plain English. Targeted at helping kids (5-7th grade) get excited about programming while learning the fundamentals of problem solving & design. https://ece.vt.edu/news/article/gamechangineer
- Designed & implemented website functions for UI / data collection & playtesting

Thomas Jefferson High School for Science & Technology | 2012 - 2016

Governor's magnet school, consistently rated among the best high schools in the nation, with very competitive entrance requirements.
https://www.usnews.com/education/best-high-schools/national-rankings

Original Game Design & Development | *http://deangumas.github.io*

Find Home (2020)

- An open-world exploration game with platforming & puzzle challenges to unlock new areas
- Written in C++ using Unreal Engine 4

VR Driving Simulator (2020)

- Driving simulation game built for Oculus Rift platform. Uses Mapbox SDK to create maps representing real world areas such as New York City.
- Written in C# using Unity

Gravity Labs (2019)

- 2D platformer with modeling of directional gravity & flipping mechanics
- Written in JavaScript

Awards & Honors

- Virginia Tech Summa Cum Laude (2020)
- Dean's List with Distinction (2016-19)
- Pratt Engineering Award (2017)
- VT Hacks 3rd Place overall - programming competition/hackathon (2017)