Jason G. Villanueva

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Education

Massachusetts Institute of Technology *Cambridge, MA*

B.S. in Computer Science and Engineering *2018*

Experience

Open Source Community *The Internet*

Contributor *2017-Present*

- ManimCommunity - Developer for the programmatic, Python animation library, manim. Redesigned and implemented the command-line interface, created the plugin architecture for Manim's extensibility using entry points, used GitHub's REST API to autogenerate changelog for releases, improved the SVG parsing engine, wrote the organization's Code of Conduct, and much more.
- Jet Club - Learned to use Unreal Engine 4 (UE4) in three weeks and created a free-to-play physics based car soccer video game for Linux with online multiplayer using a combination of C++ and UE4's Blueprint Visual Scripting language.
- Flight Plugin - Implemented aerodynamic effects (Lift/Drag) into the UE3 video game, Rocket League, using C++.
- Rocket Console - Created an API for developers to access the SDK of the popular game, Rocket League, in order to dynamically add and remove plugins at runtime. Reverse engineered the Rocket League SDK with decompilation tools and memory scanners to reconstruct the game's SDK.
- PushFish - Developed an MQTT push notification app for Android in Kotlin.
- ... and more!

Psychocandy *Los Angeles*

Freelancer *2020-Present*

- Created an eCommerce store with a VPS host, LAMP stack and WordPress in the backend for the owner.
- Customized the website to the owner's preference using HTML, CSS, JavaScript and PHP.

Mobile Autonomous Systems Laboratory *Cambridge, MA*

Webmaster, Staff, and Champion *2018 & 2017*

- Maintained the 2018 course website (PHP, HTML, CSS); mentored teams; gave a lecture on software design for robotics.
- Won the 2017 robotics competition. Implemented ROS for the microcontroller proxy and wrote the robots AI algorithms.

MIT Aerospace Controls Laboratory *Cambridge, MA*

Lincoln Laboratory Undergraduate Research and Innovation Scholar *2017-2018*

- Experimented with sensor fusion and calibration procedures whilst improving odometry for autonomous ground robots.

American Prison Data Systems *Cambridge, MA*

Software Engineering Intern *2016*

- Designed, tested, and implemented a Python script to configure multiple Android tablets in parallel with security firmware.

MIT Space Propsulsion Laboratory *Cambridge, MA*

Undergraduate Researcher *2015*

- Experimented with aluminum molds for RF substrate; modeled substrate shrinkage with multivariate regression to find correct mold.

MIT Track & Field - Student-Athlete, Assistant Director Search Committee *Cambridge, MA 2014-2018*

Languages

Programming Python, Rust, Kotlin, C/C++, Java, JavaScript, PHP

Other MySQL, MongoDB, HTML, CSS, LaTeX, Spanish

Relevant Coursework

- Computer and Network Security
- Performance Engineering of Software Systems
- Interactive Music Systems
- Software Construction
- Deep Learning for Self-Driving Cars
- Design and Analysis of Algorithms
- Electronic Music Composition
- Computer Systems Engineering