

Michael Vaganov (michael.vaganov@gmail.com)

Summary

Senior level software developer with game programming, teaching and technical mentoring background. 8+ years of teaching undergraduate game development in C++, in technical and practical 8-week courses, and guiding final projects (rapid prototyping with interns). 4+ years teaching CS K-12, primarily High School. 6+ years Teaching Unity 3D game/VR development. 2+ years technical management. Professionally implemented Unity prototypes, garbage-collection systems in C++, socket networking, domain specific scripting languages, and a custom web-browser on pre-smart-phone mobile.

Skills

- **20+ years Programming:** hobbyist, game programmer, educator, consultant, software engineer
- Programming Languages: **C, C++, C#, Java, JavaScript, Python**
- Software Domains: games, productivity, automation, UI/UX, client/server, 3D, AR/VR/XR
- **15+ years Teaching Computer Science:** ages 7 to 40+, as tutor, undergrad professor, high-school teacher, code coach

Portfolio

- Code Samples: <https://github.com/mvaganov/>
- Personal Website: <http://www.codegiraffe.com/portfolio/>

Employment History

XR People Experiences Gameplay Engineer at Meta, Contingient Worker via Crystal Equation

(Nov. 2021 to present) Working on tech infrastructure for the metaverse

- Maintained prototyping infrastructure (Unity packages) for prototypers, including testing and feature development
- Created user interface tools in virtual reality for on-device debugging of networking systems
- Familiar with Meta engineering infrastructure (the mono repo and diffs, security and provisioning, VR/AR hardware)

Senior Software Engineer at Moback

(Apr. 2020 to Nov. 2021) Member of a mercenary guild of elite robotics/VR/AR developers

- Developed Augmented Reality (AR) software prototypes using Unity, C#, C, C++, and Python
- Created compelling illusions that exist in Oculus VR, and custom multimedia devices including LED arrays, speakers, and haptics
- Developed realtime simulation serving data to hardware and software clients, including Maya and Blender, using sockets
- Wrote many iterations of Teensy micro controller app for novel hardware, including memory management & realtime communication
- Technical Project Management: defined tasks, mentored engineers, found key hires, vetted new hires in technical interviews
- Collaborated with fortune 500 company client to cast vision and design science-fiction-like augmented reality tools

Director of Engineering at Lightside Games

(Jun. 2019 to Apr. 2020) Ranking software developer at a distributed mobile games studio

- Developed proof-of-concept software prototypes with Unity
- Planned [engineering culture and advancement track for engineers](#), including [review process](#)

- Vetted external contractors responsible for bulk game development
- Collaborated with lead designer to plan product pipeline, including concept market-testing
- Represented company at conferences and industry meetups

Chief Educator, Futurist, and Code Coach at Applied Computing Foundation

(Feb. 2020 to present) Showing how to Apply Computing to solve problems (I'm making wizards!)

- Part of executive committee, giving feedback on process and guidance on future initiatives
- Teaching Virtual Reality, Game Development, and Entrepreneurship classes

Faculty at Gamebridge Unityversity

(Aug. 2016 to Mar. 2020) Lead weekly Virtual Reality & Game Development workshops

- Responsible for Unityversity's Santa Clara Central Park Library classes in Santa Clara, CA (2019)
- Improvisational tutorials about: programming, game design, software development, math, 3D modelling, digital art, other tech.
- Taught throughout the California Bay Area (USA), and Seoul (South Korea, Nov 2019)

Computer Science Teacher at Sacred Heart Prep

(Aug. 2015 to Jun. 2019) Faculty member at an exclusive private school.

- Taught computer science, with curriculum designed to motivate with creativity and computer hacking
- Subjects: Computer Science fundamentals, HTML/CSS, Python, JavaScript, C, C++, C#, Unity, VR, computer graphics, photoshop, 3D modeling, 3D printing, electronics, cyber security, tech industry culture
- Wrote software used to notify complex class schedule using speech synthesis
- Wrote Artificial Neural Network from scratch using Python, then again C#, as a learning exercise

Code Coach at theCoderSchool

(Sep. 2014 to Aug. 2015) Elite Computer Science education for youth (between age 7 and 17) in the Silicon Valley.

- Custom-built tutorials for: Unity, C#, C and C++, Java, Blender, 2D/3D math, Game Design, Project Management

Self Employed Programmer, Entrepreneur

(Dec. 2012 to Present) Personal moonshot, and consulting services including prototyping and technical planning.

Professor at DeVry University (Silicon Valley Campuses)

(Mar. 2006 to Dec. 2014) Professor of Games and Simulation Programming (GSP), a Computer-Science-like Bachelors of Science degree program, with emphasis on game development.

- Rated highly in students evaluations (consistently 3.5+ out of 4), despite having [difficult classes](#)
- Focused on teaching performant code and game development in C and C++
- Taught and evolved course content: programming, data structures, practical software architecture, computer graphics, AI for games (expert systems), project management, design
- Managed 30+ Senior Project teams (16 week projects, 2 to 5 programmers /team with varying skill levels)

Software Engineer at LimeLife

(Nov. 2006 to Apr. 2008) Developer responsible for end-to-end network-aware flip-phone mobile application development.

- Senior-level engineer: product development, build-systems and automation, client/server
- Fully automated heavily manual build process requiring test-activity to seed meta-data, saving hours-per-day for build engineers
- Created DRM (Digital Rights Management) abstraction layer, implementing client and server side code

- Implemented garbage-collection and a domain-specific web-browser for "ALE", a (quite impressive) wide-porting/localization/multi-platform, multi-lingual (C++ and J2ME) API and build system. Created for flip-phones, ALE's build system could notably compile a J2ME program into BREW C++ for any target device known by the system.
- A responsible part of shipping 5 distinct mobile titles, and many SKUs of each

Software Engineer at Infospace Mobile Games

(Dec. 2004 to Nov. 2006) Developer of mobile applications with emphasis on client/server interaction.

- Senior-level engineer: product development, framework, R&D, client/server
- Implemented and debugged multiple proprietary asynchronous client/server products
- Conceived and implemented original scriptable UI engines for mobile and created associated compilers and virtual machines
- Lead development of a social-media photo-blogging application
- Created a client/server test app used for system testing and engineer training
- A responsible part of shipping 5 distinct mobile applications, and many SKUs of each

Porting Engineer at Atlas Mobile (later purchased by Infospace)

(Jun. 2004 to Dec 2004) Very productive first-6-months-of-professional-software-development.

- Client side QA developer, primarily tasked with porting and bug fixing
- Identified as a 'BREW expert' by technical management, 6 months after learning BREW
- A responsible part of shipping 5 "For Prizes" mobile titles, and 30+ SKUs of each

Education

Keller Graduate School of Management

(Sep. 2006 to 2010) Masters of Project Management

DeVry University

(Jul. 2001 to Oct. 2004) BS of Computer Information Systems

Other

Volunteering

- Computer Science Teachers Association, Silicon Valley CSTA chapter (Member: Jan. 2017 to present, President: Jan. 2018 to Sep. 2019)
- Applied Computing Foundation: teacher, organizational leader (Apr. 2020 to present)
- FIRST Robotics: FTA (Field Technical Advisor) certified (Jan. 2020)
- Citizen Schools: public school outreach (Feb. to Apr. 2014, Oct. & Nov 2013)
- Coder Dojo Silicon Valley: conference-style tech meetups for kids (Sep. 2013 to 2017)
- Guest Lecturer at various universities in Uganda (Oct. & Nov. 2012)

Hobbies

- Hiking, Biking, Rock Climbing, Fencing
- [Software Side-projects](#), Game Jams and Hackathons