Matthieu Gay-Bellile

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avilad.github.io

EDUCATION:

GEORGIA INSTITUTE OF TECHNOLOGY   **Atlanta, GA**
Bachelor of Science in Computer Science – Expected Graduation: May 2019   *August 2015 – Present*
GPA / Major GPA – 3.0 / 4.0

INTER-COMMUNITY SCHOOL ZURICH   **Zumikon, Switzerland**
International Baccalaureate Diploma – Graduation: May 2015   *August 2013 – June 2015*
SAT Scores – Math: 800, Reading: 800, Writing: 710

WORK EXPERIENCE:

Duke Energy   **Charlotte, NC**
Mobility and Analytics - Software Development Intern   *May 2016 – August 2016*
Largest electric power company in the United States, serving over 7 million customers.
- Designed and developed a website for internal "Innovation Challenge" employee innovation program
  - Built on a MEAN (MongoDB, Express, Angular (2.0), Node.js) stack with Bootstrap 4 UI
  - Highly decoupled MVC design with REST API backend
- Developed a framework to integrate energy usage reporting services with the Amazon Echo smart speaker
  - Leverages Amazon's AWS Lambda and Alexa Skills Kit platforms, built with Node.js

Cybedroid   **Limoges, France**
Software Development Intern   *July 2014 – August 2014*
Robotics startup, specialized in the development and production of humanoid service robots.
- Adapted C# robotic framework for use with Mono on Linux
- Created face-tracking, head-following, and manual control software for articulated robot heads

Virtuos   **Shanghai, China**
QA Intern   *May 2013 – June 2013*
Video game developer and provider of digital entertainment production services for the game and movie industries.
- Identified and reported critical bugs in trade show demo of Fable: Anniversary (HD remaster of Fable – 2004 game)

PROJECTS / CONTRIBUTIONS:

FluidSim iOS App
iOS Fluid Simulation
- Implemented smoothed-particle hydrodynamics algorithm in C++, based on an existing C# implementation
- Added variable gravity based on device accelerometer, and touch interactions with the fluid
- Wrote post-processing routines in OpenGL ES to draw discrete simulation particles as a smooth, continuous fluid
  - Enabled customization of fluid appearance, color, and physics through in-app menus and flexible shaders
- Designed custom UI using iOS Storyboards and Objective-C

logKext
Kernel-level keylogger for OS X
- Tracked down and fixed a critical kernel panic bug that made the program unusable on OS X 10.9
  - Determined cause by cross-referencing disassembly of IOKit device driver framework and sources found online
- Released updated version, with support of the original developer

SKILLS:

Programming languages: Java, C#, C, C++, HTML, CSS / SASS, JavaScript / TypeScript, Objective-C, Python, GLSL
Frameworks and platforms: Node.js, Express, Angular 2, Bootstrap 4, MongoDB, AWS Lambda, Alexa Skills Kit, Git
Spoken languages: English, French, Mandarin Chinese