Derek Jones

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Backend Software Engineer
New York City area (Stamford, CT)

LinkedIn `@dj0wns`
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LANGUAGES C++, Python, C, PostgreSQL **TOOLS** Git, Django, Linux, Qt

Experience

- **Software Engineer**—Google, Google Ads Editor
  October 2018 – Present
  - Led, designed, and implemented a new customer facing error logging solution to reduce the load on support staff—reducing size by 76%, overhead by 15%, and increased information
  - Redesigned our authentication system to leverage local server OAuth2 and developed supporting framework to monitor user success with the new flow
  - Upgraded all translation strings to use ICU pluralization syntax, allowing for vastly improved readability in other languages
  - Collaborated with API teams to implement 23 new campaigns, ad types, and extensions
  - Investigated, tested, and fixed over 30 bugs and crashes and additionally refactored to improve performance
  - Ensured new features supported 2 API systems during a transitional API migration period
- **Software Engineer**—Raytheon, Radar Signal Processing
  June 2017 – September 2018
  - Worked closely with mathematicians to implement and optimize complex algebraic funcions
  - Created unit tests for 100% code path coverage due to extreme reliability needs
- **Software Engineer Intern**—Lawrence Livermore Natl. Lab, High Energy Density Physics, *Summer 2016*
- **Software Engineer Intern**—ViaSat Inc., *Summer 2015*

Projects

- **AoEPulse.com**—Hobby Project, *Python Django with React.js Frontend*
  - Open source stats website for Age of Empires 2 with over 6 million games analyzed and 1500 monthly unique users
  - Developed unique replay analysis to create the first large dataset driven by heuristics on player actions
  - Designed a schema and highly configurable dashboard with a context specific caching system optimizing data freshness
  - Reduced latency for common complex queries by storing data in custom intermediary tables
  - Implemented a request/response queue to allow for heavier queries from power users
- **Metal Arms Arbitrary Code Execution Exploit for the Original Xbox**—Hobby Project, *x86 Assembly*
  - Independently discovered, researched, and exploited a novel format string vulnerability, the fifth ever discovered arbitrary code execution exploit on the Xbox and the first discoved in over 5 years
  - Additionally leveraged flaws in input validation and a limited buffer overflow
- **Virtual Reality Visualization of Monte Carlo Particle Transport**—Honors Thesis, *C#*
  - Created a virtual reality visualization of Lawrence Livermore National Laboratory's Monte Carlo particle transport code, Mercury, utilizing an HTC Vive
  - Developed a system for generating three dimensional primitives in Unity, then modified a constructive solid geometry library to create more complex shapes, and implemented HTC vive support
- **RAID-Like Cloud Storage**—PennApps XV, Top 30, *C++ and Python*
- **ASU Programming Competition 2016**—1st Place Overall
- **Supercomputing 15 Conference**—Student Cluster Competition, Arizona Tri-University Team

Education

- **Bachelor of Science in Computer Science**—Arizona State University, Tempe, AZ, *May 2017*