Derek Jones

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

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LANGUAGES C++, Python, C, PostgreSQL **TOOLS** Git, Django, Linux, Qt

Experience

- **Software Engineer**—Google, Google Ads Editor *October 2018 – Present*
  - Worked closely with a small team of engineers to implement new features in a high reliability desktop application targeted at large advertisers which drives 50% of all Google Ads spend
  - 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 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 functions
  - 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*
  - Researched, implemented and benchmarked different acceleration structures for use in highly distributed computing clusters to prove which solution is the most performant
- **Software Engineer Intern**—ViaSat Inc. *Summer 2015*

Projects

- **AoEPulse.com**—Hobby Project, *Python Django with PostgreSQL and React.js Frontend*
  - Open source stats website for Age of Empires 2 with statistical analysis on 6+ million games serving 1500+ monthly unique users
  - Developed unique replay analysis to create the first large dataset driven by heuristics on player actions
- **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 discovered in over 5 years
  - Additionally leveraged flaws in input validation and a limited buffer overflow
- **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*
  - Barrett, The Honors College with the Provost Scholarship
  - **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

Hobbies Tennis, Outrigger Canoe, Chess, Car-Mechanic