Varun Khaneja

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About Me

I'm a versatile, seasoned developer, interested in working on problems of scale. I like challenges, love travel, and am fascinated by economics.

Areas of Interests

Fraud/Abuse prevention at scale, Mobile application development, Web development, Cloud infrastructure.

Programming Skills

Python, *C++*, *JavaScript*, *Java*, *bash*.
Mobile: *Android*, *Windows Phone*, Familiarity with *iOS*.
Desktop: *Linux*, *Windows*.

Professional Experience

Google Inc., Mountain View, USA. **July 2013 – present**

Senior Anti-Abuse Engineer

I develop tools to prevent losses due to fraud and policy violations in AdWords that directly affect Google's bottomline and build user and advertiser trust. This involves building systems to prevent instrument abuse, cloaking, credit abuse, counterfeit, and various other techniques employed by malicious advertisers to game the system.
My work has been instrumental in saving XX-XXX MM USD per quarter in financial losses and avoiding loss of user confidence.
I have been leading the work on this project locally, and managing some 3-5 persons remotely as team priorities change. I am also mentoring 1 person locally to help them grow into an engineering role.
I also spent 20% of my time in Q3 2014 to build some features for the Android application of an un-announced project.
Experience gained: *Fraud/Abuse fighting*, *Python*, *JavaScript*, *Angular*, *bash*

Microsoft Corporation, Redmond, USA. **July 2011 – July 2013**

Software Development Engineer II

Developer on the *Expression Blend for HTML* team. Expression Blend is a user interface design tool for creating graphical interfaces for web and desktop applications. I implemented support for some JavaScript controls for Windows 8 applications, and CSS-like animation features for Windows 8 JS applications.
Experience gained: *C#*, *C++*, *CSS*, *JavaScript*, *XAML*.

Adobe Systems, Noida, India. **June 2007 – July 2011**

Computer Scientist

Mobile: Built Adobe Reader for *Android*, single-handedly for *Windows Phone 7*, lead the effort for some of the other platforms.
PDF Reader for Unix: Implemented *Flash Player* playback inside *Reader*; Owned the responsibility for a smooth installation experience.
Acrobat: Joint ownership of development of the legacy Multimedia playing solution.
Experience gained: *Android*, *C++*, *Java*, *bash scripting*, *Windows Phone 7*.

Advanced Micro Devices (AMD), Bangalore, India. **July 2006 – May 2007**

Design Engineer - II Pre-silicon functional verification

Complete ownership of functional verification of the instruction cache and the floating-point unit (FPU) of the first generation of quad-core processor family from AMD.
Joint ownership of the functional verification of the Data Cache.

Honours and Awards

Awarded peer bonus 4 times at Google since December 2013.

Awarded the "Good Work" award multiple times by teammates at Adobe, 2010.

Spot award for diligence shown in working on security issues related to Multimedia playback for Acrobat 9, 2008.

Won 1^{st} prize in *Coderupt*, an International Online Hacking Competition, 2006.

Ranked 2^{nd} (99.98 percentile) in GATE examination, 2004.

Among top 0.1% scorers in Mathematics in AISSE, 1998.

Education

IIT Kanpur **July 2004 – June 2006**
Master of Technology Advisor: Dr. Mainak Chaudhuri CPI: 9.14 (on 10)

Bharati Vidyapeeth College of Engineering, Delhi, India **July 2000 – June 2004**
Bachelor of Technology Score: 79.80%

Academic Courses

Parallel Computer Architecture, Embedded Systems, VLSI Design for Parallel Architectures, Computer System Security.

Academic Projects

Masters Thesis: Selective optimizations and Evaluation of a Directory-less Protocol on Distributed Shared Memory Multiprocessors.

Distributed Shared Memory multiprocessors have been using directory based approaches to maintain the state of the cache lines at home node. This approach has a major memory access overhead, for reading the directory, in cases when the line is in the modified state. I worked on designing a protocol that circumvents this problem by broadcasting the incoming request to all nodes in the system. Broadcasting all incoming requests puts a large amount of load on the coherence controller, so techniques to reduce the average load on it were also evaluated.

Prediction of header and addresses in a packet in a Distributed Shared Memory System

The project dealt with the use of prediction algorithms for predicting the header and contents of request messages in a DSM system. This helps in reducing the effect of memory access latency and improves system performance considerably. To keep the hardware costs minimal, simple algorithms were used which needed to be finely configured. *[September - November 2004]*