

SANCHIT KARVE

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Objective

To obtain a full-time position that enables me to use my skill sets in desktop/web/mobile development, reverse engineering and application/network security.

Highlights

- Extensive experience in Application development (client and server side), Mobile Applications development and Reverse Engineering.
- Moderator on large online programming forums (like dreamincode.net, with more than 450,000 members) with a passion for teaching and helping co-developers solve problems.
- Ardent programmer proficient in a variety of software tools and technologies and having expertise in C/C++, Python, Java, x86_asm.
- One of the few in the security industry with knowledge of the esoteric Visual Basic 5/6 file format and its Thunder runtime internals.

Skill Set

Programming Languages	C/C++, Python, 80x86 Assembly, C#, PHP, Java SE/ME/Android, VB6, R
Databases	Amazon S3, MySQL, SQL Server 2008
Operating Systems	MS-DOS, Windows, Linux (Fedora and Ubuntu distributions)
Reverse Engineering/Security Tools	IDA Pro, OllyDbg, HIEW, WireShark

Education

Masters in Computer Science - HCI major	Oregon State University	Sep 2010 – Sep 2012
Bachelor of Engineering - Computer Engineering	University of Mumbai, India	Jun 2006 – Jun 2010

Work Experience

Anti-Malware Researcher, McAfee Inc.

Sep 2012 – present

I research malware and their infection vectors for Windows and Linux and develop internal tools for malware analysis, automation, clustering, threat intelligence and signature development. I author and improve malware detection and repair code for McAfee's VirusScan line of products as a result of analyzing various parasitics, trojans, anti-emulation techniques and advanced persistent threats. Awarded McAfee Labs' Employee of the Quarter for Q1 2013 and Collaboration Award for Q3 2013. Specialties: Sality, Expiro (32/64 bit), Beebone/Worm-AAEH, Pate/Parite, Dorkbot, Zeus-based malware, Cryptolocker and many others. McAfee Blog: <http://blogs.mcafee.com/author/sanchit-karve>

Maintainer – The Privly Foundation

Oct 2011 – present

Volunteering with an open source project called Privly as their maintainer of their Opera browser extension and Android app. Mentored a student to develop the android app during Google's Summer of Code (GSoC) 2013. Project URL: <https://www.priv.ly>

Graduate Research Assistant, Oregon State University

Sep 2010 – Sep 2012

Researched Reusability of Software Components on Online Repositories by analyzing "low ceremony evidence" such as reviews/comments, age, usage statistics, etc. of source code posted on CodeProject.com and SourceForge.net to predict its quality. Thesis: <http://ir.library.oregonstate.edu/xmlui/handle/1957/33638> Publication: <http://dl.acm.org/citation.cfm?id=2465459>

Software Engineering Intern, Electro-Scientific Industries (ESI), Portland, OR

Jun 2011 – Sep 2011

Worked on the GUI (C#) and Control Programs (C++) of ESI's 3500 (Multi-Layer Ceramic Capacitor Tester) and 3800 (LED Tester) models.

- 1) Added Multi-threading functionality in the 3500 to speed up the process of finding the ideal vibration frequency of its feeder.
- 2) Created a Custom Version Controller for Visual Studio 2008/2010 that incorporates Changeset IDs from Team Foundation Server (TFS), Build Accounts, TFS Branch Labels, etc. into the Application's manifest.
- 3) Added software licensing code to provide access to 3500's Stress Test features only to licensed users.
- 4) Created a Diagnostic Tool capable of creating and editing Simulation Test files for the 3800 LED Tester.
- 5) Added graphing functionality in the 3500 GUI to present a visual representation of data from log files.
- 6) Added code to reduce number of sensors required to detect bin drawer states in the 3500.
- 7) Extended existing code to support an additional shim sensor in the 3500.

3500 Project URL: <http://www.esi.com/Products/PassiveComponents/ElectricalTesters.aspx>
3800 Project URL: <http://www.esi.com/Products/PassiveComponents/LEDTesters.aspx>

Student Developer, Oregon State University (Business Solutions Group – Software Dev.)

Feb 2011 – Jun 2011

1) Helped develop a system called Transportation Operating Center System (TOCS) using C# for the Oregon Department of Transportation (ODOT) to consolidate its 4 regional dispatch centers throughout the state integrating multiple software and information systems. This system has combined the functionality of multiple event and resource management systems into one TOCS app capable of independent operation at each center with the ability to backup one operation center from another. It also has an interface with the Oregon State Police to exchange data.

2) Created Data Structures using Salesforce to consolidate student information from various departments to create an internal job portal. Project URL: <http://bsg.oregonstate.edu>

AI Developer, Oregon State University (School of Electrical Engineering and Computer Science) Oct 2010 – Jan 2011

Ported and tested an MS-Outlook plugin written for Outlook 2007 to work with Outlook 2010. Used VSTO with C# for creating an interface between the Outlook plugin, a SOAP/WSDL web service and Java sockets. Also wrote and tested code for generating and reading data formatted in XML and JSON using C#. "TaskTracer" is a Task-Based Interruption Recovery & Knowledge Management tool to investigate the possibilities of a desktop software system that will track in detail how knowledge workers complete tasks and intelligently leverage that information to increase efficiency and productivity.

Project URL: <http://eecs.oregonstate.edu/TaskTracer>

Intern, Tata Consultancy Services, Mumbai

Sep 2009 – May 2010

Configured, developed and tested an intranet web application "National Health and Safety Portal" using JSP, which is being scaled for implementation in all branches of Tata Consultancy Services, India.

Designed and developed a utility for database backup and migration which was implemented as a module in the Health and Safety Portal.

Notable Projects:

Thallium Backup

Using: Java (Android), BusyBox, PHP, Amazon S3

Wrote an open source alternative to Titanium Backup to allow users with rooted phones to backup and restore their apps and data. Integrated with Amazon S3 to enable cloud backups.

Project URL: <https://github.com/born2c0de/ThalliumBackup-Android>

Privly

Using: JavaScript, Java (Android)

Helped write and maintain the browser extensions for Opera and Chrome for an open source project called Privly. Mentored a student to develop the android app during GSoC 2013. Presented project at Open Source Bridge conference in Portland, Oregon in June 2012.

Project URL: <https://github.com/privly>

Conference Session: <http://opensourcebridge.org/sessions/788>

Facebook/Twitter Redirect Fixers for Chrome and Opera

Using: JavaScript

A browser extension focused on privacy to prevent facebook and twitter from learning which links you click while browsing their websites. This is implemented by modifying the DOM to remove any redirection from external URLs.

Project URL: <http://sanchitkarve.com/projects/facebookredirectfixer/>

SourceForge.net Project Review Summarizer

Using: Natural Language Processing (NLP), C#, SourceForge.net Read-Only API

Used a set of NLP techniques to retrieve the quality of features of open-source software from their reviews on SourceForge.net

Project URL: <http://www.sanchitkarve.com/gradschool>

Universal Mobile Device Synchronization

Using: PHP, J2ME, C#

This system enables users to synchronize their personal information seamlessly across mobile devices and computers irrespective of the device platform. UMDS was written at a time when no solution existed to wirelessly synchronize information across devices.

Project URL: <http://www.sanchitkarve.com/umds>

PocketFare – Mumbai

Using: J2ME, PHP, Java for Android

This system enables users to view the latest fares for the taxis and auto-rickshaws of Mumbai, India. The latest fares can be downloaded when the fares are updated by the Regional Transport Office, Mumbai (RTO). A daily newspaper "Maharashtra Times", which has a readership of over 1 million, published an article about this application in August 2010. Also appeared for a live interview on a national news Channel TV9 (Hindi) about the mobile application.

Project URL: <http://www.sanchitkarve.com/projects/pocketfaremumbai>

BunkM – Mobile Attendance Manager

Using: J2ME, PHP

This project enables students from Indian Universities to manage their attendance and check if they need to attend additional lectures to fulfil the minimum attendance requirement for their course. It also features a backup system where users can upload and download their attendance information on the web server. A daily newspaper "Maharashtra Times", which has a readership of over 1 million, published an article about this application in September 2010.

Project URL: <http://www.sanchitkarve.com/projects/bunkm>

J2ME Accelerometer API for Nokia SymbianS60 v9.2 and below

Using: J2ME, Local Sockets

Accelerometers on phones running lower than Symbian OS v9.3 are not accessible by the J2ME API. This project provides a library for J2ME developers to interface with the accelerometer on such phones. The library is used with Slider's Edge binaries as the server socket.