

PRANJUL ARORA

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EDUCATION

Master of Science, Computer Engineering (Software Track)

GPA: 3.936/4.0

Syracuse University, Syracuse, NY

May 2018

Relevant Coursework: Object Oriented Design (C++), Software Modeling Analysis, Advanced Data Structures, Design Patterns, Computer Security, Android Programming, Mobile Application Programming (iOS)

Bachelor of Technology - Information Technology

First class with distinction

ITM University, Gurgaon, India

May 2014

TECHNICAL SKILLS AND INTERESTS

- **Programming Languages:** C++ (C++ 11, STL, Sockets, Multithreading), C, C# .NET, Java, SQL, Shell scripting, Bash, HTML, Python
- **Web/Mobile Development:** iOS (Swift-2/3/4), Android, Firebase, Angular 2, JavaScript, Servlets, JDBC, JSP, Django, HTML DOM
- **Security:** Secure SDLC, Source Code Review, System Security, Web Security (OWASP top 10), Android Architecture & Security, TCP/IP Protocol
- **Design Patterns:** Singleton, Abstract Factory, Factory Method, Façade, Adapter, Decorator, Proxy, Big Ball of Mud.
- **Tools/Platforms:** Unix/Linux, Visual Studio, GDB, GCC, Eclipse, Android Studio, Xcode, Conda, GIT, JIRA, SVN, Jenkins, Crucible, MySQL.

TEACHING AND RESEARCH EXPERIENCE | Syracuse University, NY

Graduate Teaching Assistant, Object Oriented Design (C++) – under Prof. Jim Fawcett

Spring 2018

- Responsibilities include conducting regular help sessions; demonstrating design strategies and C++ concepts through examples.

Graduate Research Assistant – under Prof. Ying Lin

Oct 17 – Present

- Developed education recommendation system that records user's behavioral information using NoSQL Database.
- Performed data analysis to recommend events based on user's current location, timestamps and visited topics.
- Developing web application in Django for data visualization hosted on AWS EC2 instance.

TECHNICAL EXPERIENCE

Software Engineer Intern | Up2Code, NYC, NY

May 17 – July 17

- **Technologies & Design Patterns-** JavaScript, JSON, Swift 3, Firebase, Git, Google & Facebook API, Singleton, Façade and Decorator Pattern.
- Developed application that provides users real-time information on their favorite restaurants and performed Unit and UI testing.
- Developed automated scripts running on the backend server to update ratings and perform maintenance activities.
- Facilitated users with Apple Maps to find restaurants and used geo-fencing to restrict users from rating a restaurant without visiting it.

Software Engineer | NEC Technologies India Limited, Noida, India

Dec 14 – July 16

ClusterPro Replacement (HydraSTOR's Component- NEC Product)

- **Technologies-** Python, shell scripting, Git, JIRA, CentOS, Open Source Software- Pacemaker, Corosync, and DRBD.
- Gathered requirements from teams across organization to develop design for replacement of distributed grid management system.
- Developed Proof of concept and prototype for replacement using Pacemaker, Corosync, Distributed Replicated Block Device.

Start-Stop Automation Tool (Used- Python, shell scripting, CentOS)

- Developed a tool that measures HYDRAStor's start-stop performance and used XlsxWriter to create an excel sheet for results.
- Involved in the analysis of requirement specifications and technical aspects of the tool.

Software Developer Intern | Jabong.com, Gurgaon, India (Used- C#.NET, WCF, WPF, XML, Multithreading)

May 13 – July 13

- Developed a server monitoring tool that displays and reports the status of the services hosted on the Servers.
- Developed GUI based on WPF provide users with Tachometer representation for displaying Process activity.
- Presented tool to senior leads in R&D team which served as a prototype for the tool now being used in the organization.

PROJECTS

Type-based Dependency Analyzer & Remote Code Publisher - C++ 11, Sockets, Multithreading, XML, CSS, JS, Abstract Factory Design Pattern

- Analyzer extracts lexical contents from source code files- ".h", ".cpp" and ".cs"; it then generates an Abstract Syntax Tree and analyzes it to build Type Table and find dependencies between a set of files which get stored using NoSQL database.
- Publisher publishes the analyzed code files as web pages and provides the facility to expand and collapse classes, functions bodies.

NoSQL DataBase - C++ 11, XML, Singleton Design Pattern

- Developed a Key/Value in-memory database using unordered-map persisted to an XML file and an interactive query mechanism.
- Implemented template class to store Key/Value pairs with Payload, meta-data and child (dependency) relationships.

Software Repository Testbed - C++ 11, XML

- Developed tool having core capabilities of Repository including - check-in, check-out, versioning, and browsing capabilities.
- Used NoSQL DB to store metadata information, version number for each file in the repository.

Test Harness - C#.NET, WCF, WPF, XML, Multithreading, App Domains

- Developed automation tool based on a client-server architecture to automate and ease integration testing for multiple concurrent clients.
- Developed WPF GUI to- upload XML input files, display output; and a query mechanism to retrieve records from the repository.

HealthCare@ICT- Java, JSP, Servlets, SQL, JavaScript, JQuery, Apache Tomcat

- Designed web app secured against injection attacks- SQL injection, XSS etc. and provided backend infrastructure support.

VenYou – Android, iOS, and Web (Angular 2), Firebase, Google & Facebook API

- Developed event organization application which suggests events based on the user's interest and host ratings managed on Firebase.