Abdul Ali Bangash

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PHD STUDENT . UNIVERSITY OF ALBERTA

INTRODUCTION

I am former Java EE industry practitioner and current Research Fellow at the University of Alberta. I teach Java based object-oriented Programming, Database Management Systems and Software Testing at the University of Alberta. My specialities include: J2SE, JEE, Servlets, EJB, JSF, JQuery, Hibernate, XML, Object Oriented Analysis, Design Patterns, (Composite Components, IceFaces, RichFaces), JPA, Maven, and Lucene.

EDUCATION

PhD in Computer Science   **September 2018 - current**
University of Alberta   *Edmonton, AB*

- Co-advisor: Abram Hindle
- Co-advisor: Karim Ali
- Courses:
  - **CMPUT680** Machine Learning in Optimizing Compilers with Jose Nelson Amaral
  - **CMPUT500** Foundations of Program Analysis with Karim Ali
  - **CMPUT663** Machine Learning Applied: Software Engineering with Abram Hindle

PROFESSIONAL EXPERIENCE

Graduate Research Assistant, Maple Lab   **September 2018 - current**
University of Alberta, Canada

- Used Weka - A Java based Machine Learning API to carry out a research for evaluating the difference between cross-pare evaluation and time-based evaluation.
- Used Mallet API - a Java based LDA topic modelling API to categorize stackoverflow posts QA tags.
- Developed a Java based tool that uses the concept of genetic algorithm to analyze Android APK byte-code transformations effect on energy consumption.
- Used Weka - A Java based Machine Learning API to develop a prediction model to categorize the effects of compiler based code structural changes on energy consumption. Used static analysis to analyze Android code to build machine learning models for energy regression testing.
- Developed an Energy measurement framework for IOS and Android using Python and Java.

Graduate Research Assistant   **August 2016 - August 2018**
FAST National University, Pakistan

- Designed a tool to generate execution path of test case executions of an Android application. This tool was developed as part of thesis to generate execution path of test case executions of an Android application. Purpose was to track these executions at class, method and package granularity level.
- Developed a validation system for Pivot based implementation of QVTo (Query/View/Transformation) Language that is used for Model Based Testing.
- Developed this tool to generate executable Java code from UML (Unified Modeling Language) model's structural and ALF's (Action Language for Foundational UML) behavioral information.

Java Developer, Development Team   **October 2014 - June 2015**
Global Rescue LLC, Boston
- ○ Responsible for front-end and back-end development of Grid system, an enterprise application system built on Java EE.
- ○ Skills and tools: JSF, JBOSS, MySql, EJB, Hibernate, Maven, Ant, JIRA , Mantis, JMS, Restful, JSON, Git, PuTTY , JQuery, CSS.

Java Developer, Development Team   **June 2014 - September 2014**
Spantic Technologies, Pakistan
- ○ Designed developed and deployed two modules of skip hire management system in Java EE.
- ○ Skills and tools: JSF, EJB, SVN, PostgresSQL, JBOSS.

TEACHING EXPERIENCE

GRADUATE TEACHING ASSISTANT
CMPUT 301 **Introduction to Software Engineering,** *UofA, Canada*	Fall'20, Winter'21& Fall'21
CMPUT 229 **Computer Organization and Architecture I,** *UofA, Canada*	Winter'20
CMPUT 301 **Introduction to Software Engineering,** *UofA, Canada*	Fall'18, Winter'19 & Fall'19
ECE 720 **Social Network Analysis,** *UofA, Canada*	Fall'19
EE218 **Assembly Language,** *NUCES, Pakistan*	Spring'18
EE204 **Computer Architecture,** *NUCES, Pakistan*	Spring'17
CS310 **Management Information Systems,** *NUCES, Pakistan*	Fall'16 & Fall'17

UNDERGRADUATE TEACHING ASSISTANT
CS102 **Introduction to Programming,** *NUCES, Pakistan*	Summer'15

KEY SKILLS

- ○ **Programming Languages:** Java, Python, R, C++, C#, HTML, Javascript
- ○ **Skills:** JSF, Servlets, JDBC, JSP, XML, SCM, EJB, JUnit Testing, Selenium, Java Debug, UML Modelling, EMF, Program Analysis, Socket Programming, MuJava, Windows Phone, Android, JavaScript, CSS, HTML, Javascript
- ○ **Tools:** Eclipse, Latex, Android Studio, R studio, SCM (Git), RSA , Matlab, MySql, PostgreSQL, SQL Lite, PuTTY , JIRA, Mantis.
- ○ **O/S:** Linux, Windows, MacOS