



INDERJOT KAUR RATOL

Software Developer (Java), Ericsson, Canada

CONTACT

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TECHNICAL SKILLS

LANGUAGES

Python	Expert
Java	Proficient
C#	Expert
WPF	Expert
XAML	Expert
HTML/CSS	Intermediate
JavaScript	Intermediate
XSLT	Intermediate
C/C++	Intermediate
MySQL	Intermediate
GoLang	Beginner

TECHNOLOGIES AND OPERATING SYSTEMS

- Jenkins and Bazel
- Ansible and Selenium Web driver
- Guice, Lucene and Rest API
- Cucumber
- Microsoft SQL Server
- Eclipse
- NetBeans
- Microsoft Visual Studio
- Git, SVN
- Windows, Linux

EXPERIENCE

Java Developer, Ericsson, Montreal

Oct, 2017 – Present

- Working as a developer on an open source software "Gerrit".
- Working on build automation using technologies like ansible, Selenium web driver, Jenkins and Bazel as a build tool.

PROFILE

- Working as a Java Developer with Ericsson Canada, Montreal.
- Previously, worked as a Software developer for more than 2 years and gained a rich experience with Java, Python, C#, WPF and MVVM.
- Prior experience and expertise in UI development for Automotive Industry.
- Strong academic hold in Machine Learning, Natural Language Processing, Object-Oriented Analysis and Design and Databases.
- Diligent team worker who likes to take initiatives and lead on innovative approaches for a task in hand. Passionate for a career in ML, NLP and AI.

RESEARCH PROJECTS

Detecting Fragile Comments (FraCo)

May 2016 - Dec 2017

Technology: Java and MySQL

- Focuses on automatic "rename" refactoring changes, analysing the comments and detecting inconsistencies between code and comments.
- Implements a scope-sensitive, rule-based approach using NLP techniques to identify fragility in the comments.
- Built a prototype in form of an Eclipse-plugin.

Summarizing Code Snippets

Jan 2016- April 2016

Technology: Javascript and JQuery

Extended the work of PHD research student by creating a *Google Chrome Extension* to replace the summarized snippets with the results appearing on Stack Overflow search page.

EDUCATION

M.Sc. Computer Science, McGill University

Sept 2015 – Dec 2017

CGPA: 3.52/4

Thesis: "Detecting Fragile Comments" under Prof. Martin Robillard in the area of Software Evolution and Maintenance.

B.Eng. (Hons) in Information Technology, Panjab University

2009 – 2013

Grade: Distinction (McGill grade "A" equivalent)

Completed coursework with the 4th highest percentage of 76.8% in Department of Information Technology.

RELEVANT COURSES

Applied ML, Natural language processing, Software Architecture, Research Methodologies and Advanced Programming.

- The other technology stack includes Java, Linux, Junit, Mockito, Web services, Rest API and Guice dependency injection.

Part-time Software Developer, Sensequake, Montreal

May, 2016 – April, 2017

- Reduced time to save and load the JSON data by 85% by implementing multithreading and multiprocessing.
- Reduced the space taken by JSON files by 75%.
- Optimize the source code by refactoring and effective implementation of MVVM pattern.
- Design and develop GUI using WPF with XAML that involved creation of 3D animations.

Research Intern, McGill University, Montreal

Summer 2016

- Conducted a study on multiple Java projects to trace the links between an identifier and its usage in comments. Used supervised machine learning techniques to predict the usage in a scope-sensitive manner.

Teaching Assistant, Mcgill University, Montreal

Winter, 2016 - Winter, 2017

Courses: Software Design, Introduction to Software Systems and Foundations of Programming.

- Designed and evaluated assignments.
- Assisted students with their queries by conducting tutorials.

Systems Engineer, Infosys Ltd., Pune, India

Nov, 2013 – May, 2015

Project: *Vehicle Information and Diagnostics Application (VIDA)*

- Developed and maintained the front-end code and handled various business applications including UI for a leading organisation in Automotive industry.
- Optimized the code and decreased execution time of printing tasks while working closely with the lead technology architect of the project.
- Independently created NUnit test cases for the entire project and brought up code coverage from 0% to 60%.
- Moderated team meetings and mentored knowledge sharing sessions for the team.

Software Developer Intern, Infosys Ltd., Mysore, India

Jan, 2013 – April, 2013

Project: *Task Allocation Portal*

- Designed and developed a Web application using ASP.net with backend as Microsoft SQL server.
- Designed the database to efficiently manage the requirements of Training and Teaching department at Infosys.
- Provided an end-to-end automated solution to allocate task in the T&T department of Infosys.

ACADEMIC PROJECTS

Classification of Reddit Conversations

Python

- Classified Reddit conversations into 8 news groups using classifiers like Naive Bayes, SVM and Decision Trees.
- Our team scored 1st position on the Kaggle leaderboard set for this competition.

Predicting the winner of Miami Marathon

Python

- Predicted the winner by training the models using Linear Regression, Naive Bayes and Logistic Regression.
- Our team predicted the future participation with an accuracy of 97% and predicted 1st runner-up in real marathon of 2017 as winner.

Image Classification with ImageNet

Python

- Implemented Feed-Forward Neural Networks from scratch to understand neural networks and classify images.
- Used Deep CNN to classify the images which achieved an accuracy of 90%.

Privacy Preservation in Machine Learning

Python (Deep CNN)

- Surveyed and conducted a comparative study of differential privacy techniques to preserve sensitive data.
- Applied the techniques on data sets like MNIST, SVHN and CIFAR-10 with images.

Building Compiler for GO Language

C, GoLang, Flex and Bison

- Built a compiler, written in C, for compiling the target language "GoLang".

NLP-Summarizing Reviews and Predicting Restaurant User Ratings

Python (Scikit Learn and NLTK)

- Summarized the restaurant reviews using phrase based semantic analysis in NLP.

- Predicted the user ratings based on the summarized semantics of the reviews.

Validating and re-implementing the existing tool @tComment

Java

- Validated the claims made by @tComment tool's authors.
- Re-implemented the technique that achieved an improvement in accuracy by 10% over the original tool.

Summarizing documents

Python (Scikit Learn and NLTK)

- Generated automatic document summaries with 75% similarity to human created summaries.

Hostel Allocation Portal

JSP, MySQL, Servlets and AJAX

- Built an application to automate the process of hostel allocation in my college- UIET, Panjab University. It managed allocations for a total of 16 hostels.

AWARDS & CO-CURRICULAR ACTIVITIES

Awards:

- Distinguished Paper Award for the research paper accepted in Automated Software Engineering, 2017.
- NSERC's Graduate merit-based scholarship (2016-2017).
- Recipient of CBSE's National Merit Scholarship in 2009.

Certification:

- Certified from Microsoft in Windows Presentations Foundation (WPF) in 2014.

Publications and Presentations:

- Paper titled "Detecting Fragile Comments" *accepted* for publication at Automated Software Engineering (ASE) Conference, 2017.
- Authored a paper on Issues of Routing Protocols in Mobile Ad-hoc Networks, now published in IEEE- ICAER'12.
- Authored three knowledge sharing manuals titled – "Using WPF inspector", "Creating GUI with WPF" and "MoQ and Fixtures for NUnit tests" which have been approved and added to Infosys's Tools repository.
- Presented poster at MOSSER Conference 2017 and secured 3rd position amongst 30 posters.

Workshops:

- Attended workshop organized by McGill University's Artificial Intelligence Club.
- Attended workshop organized by Google and Morgan Stanley on closing the gender gap in STEM.

VOLUNTEER AND LEADERSHIP POSITIONS

- Volunteer at the McGill Women in Computer Science (McWICS) group at McGill University.
- Representative of Equity Committee and International Student Services committee at McGill University.
- Managed Training and Placement Committee at the UIET Panjab University, Chandigarh, India.
- Member of Rotaract Club and Cultural Committee, UIET Panjab University, Chandigarh, India.
- School Head-Girl, MSP School, Dhuri, Punjab, India.

FIELD OF INTEREST & EXTRA CURRICULAR INTERESTS

Field of Interests:

- Machine Learning.
- Natural Language Processing.
- Software Evolution and Maintenance.
- Recommender Systems.
- Refactoring.
- Code Transformations.

Extra-Curricular Interests:

- Adventure Sports
- Skating
- Travelling