CHANDAN CHANDEL

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Summary: I am a Canadian citizen who is willing to relocate, and I am in the final stages of completing my master's degree in software engineering from Western University. I have completed internships at Ansys and Honda, and I strongly believe in the transformative power of practical experience. I love C++, it is my primary language; I particularly like creating high-performance code and applying my solid understanding of OOP principles. I also have experience with artificial intelligence and image processing. Check out all my professional links using the QR code below or by **clicking here!**

VCS/IDE/OS SKILLS	**Programming Languages**	**"Human" Languages**
Linux - Beginner	C++/Python - Advanced	English – Native
Windows - Advanced	Unity (3D/AR/VR) - Intermediate	French – Functional
Git/GitHub - Intermediate	JS/HTML/CSS - Intermediate	Hindi - Functional
Visual Studio - Intermediate	SQL /Java/C#/C - Intermediate	
Visual Studio Code – Intermediate	LISP - Beginner	

Beginner: A basic understanding of the skill and ability to perform simple tasks independently and more complex task with some guidance.
Intermediate: A good understanding of the skill with the ability to work on more complex tasks independently.
Advanced: An expert-level understanding of the skill with the ability to work on highly complex tasks and provide mentorship to other developers.

Work Experience Related to Software Engineering

Graduate Teaching Assistant @ Western University from January 2023 to Present (London, Ontario)
Courses: ENGSCI 1036 (Programming Fundamentals), SE 2205(Data Structures & Algorithms)
- Organized lab demo's, guided students on assignments, evaluated students on comprehension and proctored exams.

**Intern @ Ansys – EMIT team from January to April & September to December 2022 (Remote*)*
*For a more complete summary, download my internship report by **clicking here** - speaker notes included.*
- Resolved many features & defects using Python/C++ with Git Extensions and TFS in an Agile environment.
- Created python wrapper for C++ API to incorporate EMIT API support for PYAEDT (open source).
- Stored band-pair results in cache for a request by a client to save time by not recomputing, in C++.
- Improved UX by resolving a defect in JS/HTML and Python to better visualize Frequency Spectrum Utilization.
- Used Performance Profiling to speed up file upload process, simplified the process from $O(n^2)$ to $O(n)$ and removed useless re-calculations, typically reduced time by > 80%.

Programming Tutor @ Real Programming 4 Kids from March to September 2018 (London, Ontario)
- Tutored students in Java, C#, C++, Python, Visual Basic, and Unity
- Lead students through tutorials and debugged for them while instructing them in good programming practices.

Engineering Research Assistant @ Western University from May to August 2018 (London, Ontario)
Goal: Develop saliva melatonin concentration measurement solution for portable applications.
- Designed multiple PCB's, created, and updated components of our PCB library in Eagle.
- Generated code for microcontroller in C, debugged, and tested.

Personal Projects

Library Management System – built with Visual Studio, C++, QT, GitHub
> This LMS enables; the addition of new books and their deletion, while providing the ability to search by author name or book title, and sorting the list view alphabetically by title, by book size or by publish date. This program was developed with solid unit testing and a good understanding of OOP.

Infix Expression Calculator – built with Visual Studio, C++, Wolfram API, GitHub
> Evaluates infix math expressions while respecting order of operations, using Dijkstra's Shunting Yard algorithm to generate a postfix expression, and then solving it. If you enter expressions which are not supported such as scientific operations or unary operators, this program falls back on the Wolfram Alpha API to deliver the correct response. This program uses an MVC architecture and was developed using a Test-Driven Development Methodology.

[Group Personality Analysis](#) – built with Flask, Python, HTML, Google API, GitHub

> This is a fun little tool I made to practice some NLP techniques and to analyze data on Group or Amalgamated Personalities centered around Internet subcultures. I used the YouTube API to gather top 100 comments on any YouTube video. Four classifications models were trained each of which focused on 1 of the 4 axes of the MBTI personality analysis metric. I used these 4 models to generate an overview of the personality types that were most likely to comment on that video along each axis.

[Sketchpad](#) – built with Eclipse, Java & GitHub

> Developed a Sketchpad in Java which provides the capability to draw, drag, copy/paste, group/ungroup, delete a variety of shapes using a variety of colors. Additionally, there is a generic ability to undo/redo events and save/load checkpoints.

Formal Education

ECE - Software Engineering, Master's – 4.0 GPA from Western University (London, Ontario)
Coursework: Advanced Image Processing, Web Application Development, Machine Learning, Human-Computer Interactions

ECE - Electrical Engineering, Bachelor's – Dean's Honours List year 3 & 4 from Western University (London, Ontario)
Coursework: Computer Science Fundamentals I & II, Networking, Digital Logics, Electronic Communications, Microprocessors