Cole Macdonald, EIT

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Full-stack, back-end leaning, Software Engineer with a B.S.Eng from the University of Victoria. Hard worker who enjoys a fast-paced learning environment. Outside of work, I enjoy rock climbing, playing video games and music, learning about politics and quantum physics, and practicing my Rubik's cube speed solving.

Skills

Advanced
- Programming Languages
  - C# (.NET Core)
  - Java
- git
- GitLab
  - CI Pipelines
  - Package and container registries
- Developing with
  - Visual Studio (2019)
  - IntelliJ IDEA
- Time Management
- Confluence, JIRA
- Attention to Detail
- Written and Verbal Communication
- Technical Writing

Intermediate
- Programming Languages
  - JS (Backbone and React), C++, Python
- IDEs
  - Pycharm
  - Eclipse
- Design Patterns
  - MVVM
  - Singleton
  - Factory / Builder
  - Adapter
  - Facade
- svn
- Requirements Engineering
- System Design
- Database Design
- Protocol Design
- Leadership
- Team Management

Professional Summary

- **Bachelor of Software Engineering** from University of Victoria with specialization in A.I. and Machine Learning (A average).

- **Project and time management skills** and experience working with both Agile and waterfall-like design/development processes, including requirements elicitation.

- **Leadership skills** with experience managing and mentoring coop students, and running sprints as a Technical Lead.

Projects

Connected Windows Application
Latitude Technologies & SKYTRAC Systems
- Designed and implemented a connected Windows 10 installed application for flight data analysis which synchronizes its data with a .NET Core server
- Application allowed a flight data analyst the view flight data in interactive tables and graphs.
- Designed a domain-specific language for detailing how engineering units are extracted from the raw flight data.
- Efficient processing of large amount of flight data.
- Technologies included ASP .NET, .NETCore 3, MSSQL, SQLite, gRPC, SignalR, Entity Framework, and Docker.

Containerize Applications for New Deployment Environment
Latitude Technologies & SKYTRAC Systems
- Technical lead updating 6 Java applications and 2 C# applications so that the system could be deployed in a new country.
- Three of the applications are web apps, hosted with Tomcat/Jersey, and the remainder are various processing services.
- Containerized the applications with docker
- Swapped out the existing authentication system with Keycloak to support 2FA

Airbourne Communication API
Latitude Technologies & SKYTRAC Systems
- Designed and implemented an API for a client to communicate with an airbourne router.
- Involved determining the appropriate communication channel (internet or satellite) depending on the connectivity status of the aircraft.
- Technologies included C# and ASP.NET Core 3.

Extra-Curiculars

Rock Climbing
I have been rock climbing indoors and outdoors for a few years now. Learning to climb outdoors has taught me extreme attention to detail, the importance of redundancy in systems, and an interest in continuous learning.

Music
My top choice for creative expression. Being a life-long musician I play multiple instruments including guitar, bass, drums, and piano. Practising improvisation with other musicians has helped me work on my teamwork and creativity.

Work Experience

Software Engineer, Latitude Technologies & SKYTRAC Systems.
Software Developer Co-op Jan 2018 - Apr 2019 (Co-op, Part time)
Junior Software Engineer May 2019 - April 2020
Software Engineer April 2020 - Present
- Started as a co-op student, moved into a full-time role as Junior Software Engineer and then Software Engineer.
- Worked as a member of the Enterprise Software development team as the team grew from ~6 developers to ~15.
- Developed both Tomcat/Java and ASP.Net web applications as well as ASP.Net Core web services (REST APIs) and an installed Windows application (using .NET Core and WPF)
- Duties included:
  - Requirements gathering including requirements elicitation with customer
  - Development and presentation of customer-facing design materials
  - Software development, automated and manual testing, and configuration of CI systems in GitLab.
  - Management of Coop students
  - Sprint Planning
  - Constructing work plans with technical and non-technical stakeholders
  - Interviewing for various Enterprise Software positions from co-op students to Senior Software Engineers.
    - Including preparation of interview materials and exercises

Software Developer (Co-op), TC Helicon

Sept - Dec 2016
- Worked with the lead Software Developer to add additional functionality to the device management application used by customers
  - Custom search functionality
  - Tracking some user statistics per installation
- Performed feasibility research for a potential new product
- Performed automated and manual testing of new features

Software Developer (Co-op), ISM Canada
Jan - April 2016
- Worked in a small development team on 2 windows applications for internal use
- Included requirements gathering, development, and automated / manual testing

Education

Bachelors of Software Engineering (BSEng)
University of Victoria (2019)
Cumulative GPA: 8.0 (/9)
Notable courses:
- Advanced Programming Techniques for Robust Efficient Computing (With C++)
- Software System Scalability
- Requirements Engineering