Max Ellis

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Technical Skills

Languages:	Java, Spring, SQL, Python, Javascript
Libraries:	JDBC, Snowflake SDK, AWS Java SDK, Pandas, NumPy
Tools:	Snowflake, PostgreSQL, Kubernetes, AWS services, Github, IntelliJ IDEA, Kafka, Puppet, Terraform

Work Experience

Senior Software Engineer **Act-On Software, Portland** **November 2022 – Present**

- Played a pivotal role in designing and implementing **scalable** Custom Objects feature, enabling customers to seamlessly integrate their structured data into the platform. Architected a sophisticated data pipeline leveraging Snowpipe streaming for **real-time data ingestion**, implemented advanced Snowflake data manipulation strategies for **efficient data processing at scale**, including Kafka integrations for downstream consumption. This system ensured data integrity and **high performance** for customer segmentation and analytics capabilities, critical high impact data throughput in the **production environment**.
- Led **process improvement** initiatives by enhancing data infrastructures and stabilizing the data lake management service through implementation of optimized data strategies, eliminating data errors, data duplication, and **drastically reducing response times**.
- Spearheaded the **modernization** of a **mission-critical dataflow service** by upgrading from Java 8 to Java 21 and consolidating distributed H2 databases into a centralized PostgreSQL system, significantly enhancing system reliability and visibility. Facilitated **system reliability** and provided improved visibility for migration from Act-On' data center to **AWS cloud technologies**. Established comprehensive **monitoring and alerting systems** to ensure continuous system **health and performance in production**.
- Engineered multiple **data processing pipelines** using SpringCloudDataFlow, enabling seamless integration between Snowflake, S3, and various internal services. Utilized SCDF to develop sophisticated ML-ready data preparation workflows.
- Achieved rapid progression from Junior to Mid-level Engineer (March 2024), and subsequently to Senior (June 2025), demonstrating exceptional proficiency in **modern stack** technologies (Spring Boot, Kubernetes, Snowflake, AWS services); actively mentored junior developers and **collaborated across teams** to resolve complex technical challenges and drive improvements.

Research Assistant **University of Alberta, Edmonton** **September 2019 – June 2022**

- Spearheaded a project with an external collaborator to revitalize operation-based refactoring-aware merging, allowing it to be applied in practice with Git .
- Analyzed experimental data utilizing Python libraries to compare the strengths and weaknesses of two refactoring-aware merging approaches, providing insights and paths forward for each approach.
- Leveraged sparsely documented third party libraries to programmatically detect and resolve refactoring-related merge conflicts.

Publications

Max Ellis, Sarah Nadi, and Danny Dig. "Operation-based Refactoring-aware Merging: An Empirical Evaluation". In: *IEEE Transactions on Software Engineering* (TSE 2022)
Preprint: arxiv.org/pdf/2112.10370.pdf

Education

Master of Science, Computing Science, University of Alberta, Edmonton **June 2022**

- Advisor: Sarah Nadi
- GPA Overall: 4.0 / 4.0

Bachelor of Science, Computer Science, Washington State University, Vancouver **May 2019**

- GPA Overall: 3.92 / 4.0