

Liam Kelly

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GitHub: github.com/kliam11

CLEARANCE	Top Secret (Level III)	
TECHNICAL SKILLS	<p>Programming: C, C++, Java, Spring, JUnit, Node.js, SQL, React, Bash, Python</p> <p>CI/CD & Tools: Git, Maven, Artifactory, Postman, Jira, Docker</p> <p>AI/ML: PyTorch, NumPy, Pandas</p> <p>OS: REHL, Windows</p> <p>Analysis: WireShark</p>	
EXPERIENCE	Royal Canadian Mounted Police (Ottawa, ON)	May 2024 - Dec 2024
	<i>Systems Engineering Intern</i>	
	<ul style="list-style-type: none">• Researched and developed protocols, algorithms and API routes for client-server applications using Linux, Python and Mongoose Embedded Web Server• Enhanced web application security by developing hash-based message authentication codes for session tokens using OpenSSL• Developed a role-based access control layer to improve security by creating hashed user databases with SQLite and by writing middleware for authorization checks and rerouting bad requests• Debugged Wi-Fi dongle disconnections by analyzing Linux kernel logs to ensure configured power management settings, correct driver installations and resolve USB soft-blocks• Investigated the behaviour of IoT devices on wireless LAN by configuring network devices including routers, access points and Network Interface Controllers• Engaged with clients and gave regular updates to managers by conducting demos and presentations, setting up deployments and writing detailed documentation for developed tools• Studied the architecture and operation of communication protocol stacks, including 5G, LTE, Wi-Fi and Bluetooth	
	Public Services and Procurement (Remote)	May 2023 - Aug 2023
	<i>Fullstack Developer Intern</i>	
	<ul style="list-style-type: none">• Revitalized a legacy Struts server by refactoring outdated components, testing database access layers, and enhancing documentation• Reviewed and drafted UML documentation for additions to server functionality• Designed and implemented an import feature using JSP and Java by leveraging the factory pattern to dynamically parse and process uploaded files• Redesigning application databases using SQL by analysing data samples and following normalization and relationship rules to create efficient storage solutions for user data• Improved the server application by designing and implementing data access layers and creating new REST API routes to enhance functionality• Attended daily SCRUM meetings to update the team on sprint progress and maintained repositories with SVN	
	Canadian Banknote Company (Remote)	Sep 2022 - Dec 2022
	<i>Backend Developer Intern</i>	
	<ul style="list-style-type: none">• Performed server configuration on Spring image processing applications to support many property files and resources for quick modification during prospective client demos• Tested server functionality using SOAPUI by analysing HTTP responses for data conformity and serialization• Developed a SOAP-based middle tier with Jakarta to abstract communication with a processing server• Wrote unit tests using JUnit and Mockito to address gaps in test coverage of server endpoints like invalid query parameters and corrupted image files• Used Artifactory to update JAR and WAR packages for use by other developers within the company	
	Carleton University (Ottawa, ON)	Jan 2023 - Dec 2023
	<i>Teaching Assistant</i>	
	<ul style="list-style-type: none">• Assisted in teaching undergraduate coursework on C programming by providing support to students to reinforce concepts such as pointers, memory management, and data structures	
EDUCATION	Bachelors of Computer Science (Honours) Carleton University	May 2025

PROJECTS	Election Trend Analysis Built a pipeline using BERT and BERTopic to analyze over 480,000 Reddit comments, tracking sentiment and topic trends for federal party leaders from March 2024 to Feb 2025. Visualized shifts in public opinion and issue salience across politically active subreddits <i>Link:</i> github.com/kliam11/cdn2025_polisent_analy
ACTIVITIES	Acacia Fraternity Sep 2023 - May 2025 <i>Philanthropy Coordinator</i> Organized and led fundraising initiatives, raising over \$10,000 in support of Movember, Relay for Life, and Epilepsy Canada. Coordinated events, motivated members, and built partnerships to maximize impact for charitable causes
REFERENCES	Available upon request