ARTHUR LEUNG

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COMPUTER ENGINEERING, BASc
UNIVERSITY OF WATERLOO // WATERLOO // ON

2015/09 - 2020/05

· Honours, Co-operative Program, degree awarded with Distinction (GPA 88.4)
· Awarded President's Scholarship of Distinction by UW admissions, bursary by Iron Ring Ceremony
· Awarded Governor General's Academic Medal in 2015 (Bronze)

SELECTED PROJECTS

Mobile/ Web	· Architected patient referral system for dermatologists to use, agapeclinic.ca	(NodeJS)
	· Designed custom storefront for a local 3D printing business, c3dc.ca	(VueJS)
	· Published an Art & Design app with 5K+ users on Google Play Store: MoBooru	(Android, Kotlin)
Networks	· Published open source IP Cam viewer control library for D-Link 5020 and 5010L series	(Java)
Compilers	· Created clang-tidy tool to locate and transform performance antipatterns	(C++)
	· Built reference website for experimenting with porting intrinsics between Intel and ARM	(VueJS, WASM)
Data Analysis	· Studied timeliness and informativeness of vulnerability reports on NVD and references	(Paper)
	· Analyzed P2P usage from 8M+ torrent metadata entries (Openbay Project)	(Paper)
Dist. Systems	· Completed HPC courses utilizing Zookeeper, Hadoop, Spark, Kafka	
ML	· Utilized Tensorflow and PyTorch in imaging applications for autonomous vehicles course	

SOFTWARE ENGINEERING RESEARCHER
HUAWEI TECHNOLOGIES CANADA // KINGSTON // ON

2021/08 - 2023/05

· Sped up routing algorithms 1.9x + packet processing with vectorization, locality optimizations on heterogeneous devices
· Clang, ISPC, program transformation, performance portability, SIMD, roofline, Valgrind, Cachegrind, DPDK
· Received "Outstanding Individual" Waterloo Research Center award in 2022. Staff sysadmin and technical interviewer

FULL STACK DEVELOPER
MISTPLAY INC // MONTREAL // QC

2020/08 - 2021/08

· Implemented guest login, feedback, fraud detector, ported Android app from Java to Kotlin; Deloitte 3rd Fast 50 in 2021
· Refactored backend monolith into containerizable Node microservices, used AWS EB for scalability and fault tolerance
· Cut down runtimes of build and test CI pipeline by 50%, through parallelism and cache population optimizations

SOFTWARE ENGINEER
LIFION BY ADP // MANHATTAN // NY

2019/09 - 2019/12

· Optimized graph database traversal microservice (AWS Neptune, DSE) and scaling configurations (k8s, Terraform)
· Contributed bugfixes to crashes from connection leaks, debugged gremlin traversal queries and SQL counterparts
· Wrote database module I/F for Design by Contract builder React webapp, internal tooling for generating changelogs

FULL STACK DEVELOPER
TESTFIRE INC // EDMONTON // AB

2018/09 - 2018/12

· Developed NodeJS microservices and lambda functions on Azure to ingest, process and store both audio and text
· Created responsive React UI components for Hendrix.ai live audio transcription platform
· Created automated testing suite to test event-driven integration with new conference bridges and meeting platforms

SOFTWARE DEVELOPER
BAYER RADIOLOGY // MISSISSAUGA // ON

2018/01 - 2018/04

· Automated DICOM application testing with Ranorex and Jenkins, lead the DoD STIG vulnerability review effort
· Provisioned ESXi hypervisor hosts and administered using vCenter; analyzed and mitigated threats in customers' VMs
· Created a custom MLLP tool for HL7 messaging functionality testing of the Radimetrics product

FULL STACK DEVELOPER
ULTIMATE SOFTWARE GROUP INC // TORONTO // ON

2017/04 - 2017/07

· Contributed to Ionic/ Cordova development for iOS, Android UltiPro app; performed core integration with TurboTax feature
· Secured 1st place in corporate team hackathon, PoC of a voice assisted AI to perform WFM/ Time-Off actions
· Maintained automated unit and integration test suite for Spring Boot API gateway code (Selenium, JUnit)

SOFTWARE DEVELOPER
NOKIA NETWORKS INC. // OTTAWA // ON

2016/01 - 2016/04

· Designed and implemented REST APIs for remote VLAN network element management software (NI Guardian, Surveyor)
· Integrated BPMN/ workflow functionality between products effectively through REST APIs
· Tested functionality of Oracle Weblogic application with Postman automated collection runner

RESEARCH ASSISTANT
QUEEN'S UNIVERSITY // KINGSTON // ON

2014/06 - 2014/08

· Used logistic regression classifier in metastudy to predict "Likelihood of Academic Authors Becoming a PI" in their field
· Studied large dataset of journal, proceedings papers and their authors, presented results at Queen's U conference
· R, Python, multiprocessing to extract and filter key data from raw XML into SQLite