

ERIC LIU

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TECHNICAL SKILLS

Languages & Tools Python, C/C++, Swift, Java, R, Matlab, Bootstrap, Flask, Dash, Postgres, SQL, Redis, Nginx, Jenkins
Machine Learning PyTorch, Keras, SciKit-Learn, AutoGluon, CoreML, Transformers, Data Analysis
Cloud/Web Amazon Web Services (AWS), S3, Lambda, API Gateway, DynamoDB, EC2, EKS, Kubernetes, Hadoop, Spark
Technical Skills Automation, Instrumentation, System Design/Integration, Project Management, Manufacturing, Pilot

EXPERIENCE

- Apple** AI/ML/SW Engineer March 2022 – Present
– AI/ML for instrumentation, radiation pattern prediction, antenna performance optimization, predict hardware design issues.
– Deep learning and statistical models for manufacturing, predict hardware performance on assembly line for pass/fail.
– AI/ML for process optimization to increase manufacturing efficiency, and measurement accuracy.
– Lead/manage cloud infrastructure engineers and contractors. Architect cloud infrastructure solutions, manage outage response.
– Oversee software projects from design to deployment, provide guidance and oversight for engineering initiatives.
- Apple** RF System and Software Engineer June 2017 – March 2022
– Develop automated testing and calibration algorithms for RF systems. Debug baseband, antenna, RF and EE hardware issues.
– Provide system-level software, firmware RF, hardware expertise to influence and assist design and product development.
– Develop and manage cloud infrastructure critical to product development, engineering, manufacturing.
– Work with teams, vendors, contractors to design and develop instrumentation, testing, calibration solutions.
– Deployment and debug in manufacturing/factory environments, managing cross-functional, manufacturing/factory operations.
- Apple** RF Cellular Test & Automation Engineering August 2016 – December 2016
– Develop test application to automate CMW500 for testing cellular technologies (LTE, GSM, UMTS).
– Work with RF engineers to develop cellular tests from 3GPP and system requirements, correlation study between solutions.
– Work with contract manufacturers to validate and deploy RF test solution in a production environment.
- ON Semiconductor** DSP Firmware and Algorithm Development August 2015 – December 2015
– Develop multi-core DSP audio encoding/compression (G.722, CVSD), custom codec to increase compression, retaining quality.
– Evaluate codec performance, develop firmware tests, fixes for reliability and security. Optimize assembly and C code.
– Develop algorithms for memory management to optimize usage and read/write, data transfer speed.
- Department of National Defence** Defence Research & Technical Lead January 2015 – May 2015
– Design and develop high performance and versatility simulator for sensor data fusion research in intelligence aircraft (ISR).
– Develop algorithms to track targets, identify/assess threats, predict trajectory, conforming to NATO military standards.
– Engage with defence companies, foreign engineers/scientists, military to cultivate future research opportunities.
- Symantec** Network Security Software Engineering May 2014 – August 2014
– Develop tests, fix bugs for access and content control, encryption, security vulnerabilities and exploits, system crashes.
– Create comprehensive automated and manual tests based on future project road map.
- Siemens** Network Hardware/Firmware Engineering August 2013 – December 2013
– Generate, analyze packets to debug complex computer networks. Develop and test recovery systems and solutions (PRP, HSR).
– Implement and tested high precision clock synchronization, contributing to IEEE 1588 Precision Time Protocol (PTP).
- Siemens** Network Software Engineering January 2013 – April 2013
– Develop automated tests, fix network security and reliability bugs, develop libraries for IETF protocols.
– Back-end server and in-house tools development for automating calculations and documentation.

EDUCATION

University of Illinois Urbana-Champaign	Masters
Computer Science and Data Science – Deep Learning, Statistical Machine Learning, Natural Language Processing	
University of Waterloo	Bachelors
Electrical Engineering – Radio Frequency, Wireless Systems, Computer Architecture, Integrated Circuits	

SELECTED PROJECTS

Movie Recommendation Web App (Recommender Systems) 🌐	Statistical Learning: 2022
Survival Prediction Using Transformers (SurvTRACE Analysis, Transformers, BERT) 🌐	Deep Learning: 2022
Intelligent Web Link Browsing (Information Retrieval, Recommender Systems) 🌐	Information Retrieval and Data Mining: 2021
ACTR - Asteroid Characterization Through Reflectance (Aerospace, DSP, Sensors) 🌐	Space Apps Hackathon: 2016
MyOrchestra: Virtual Orchestra (Sensors, Data Fusion, DSP, IoT) 🌐	WearHacks Hackathon: 2016

RESEARCH

Memory Coherency and Approximate Caching	University of Waterloo - Department of Electrical and Computer Engineering: 2016
Effects of Haptic Feedback in Virtual Reality 🌐	University of Waterloo - Department of Electrical and Computer Engineering: 2016
Data and Sensor Fusion for ISR Systems 🌐	Department of National Defence - Defence Research and Development Canada: 2015