Eugene Wang

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Projects and Publications

Y. Wang, Q. Bao "**Adapting an Container Infrastructure for Autonomous Vehicle**", IEEE CCWC 2020
- Published DOI: 10.1109/CCWC47524.2020.9031129 [5 citations]
- Proposed using signal latency as a criterion to evaluate containers for adaption in a mixed critical system.

Y. Wang, D. Ma "**A Process in Architecting Microservices with Docker, Kubernetes, and Istio**" 2019
- arXiv preprint arXiv:1911.02275 [1 citation]
- Perfomed anlysis on mesh networks orchestration for applications of various purposes and sizes.

Y. Wang, A. Siong, "**Candle Eggs with a Phone: An Explainable Feature-based Model**" 2017 – 2021
- Link to Draft, top 3 Microsoft Image Cup, Canada, 2017; to be presented and published at IEEE GHTC 2021
- Trained a explainable feature-based CNN model to identify features in egg development for retail farmer.

Experience

Autonomous Vehicles Platform Engineer Aug. 2019 – Dec. 2019
Huawei Technologies, Canada *Markham, ON*
- Developed a rosbag sensor data extraction pipeline and a rapid test and dev pipeline, enabling rapid agile cycles.
- Integrated Carla in a master-slave simulator; set up a k8s cluster to run concurrent simulations.
- Wrote a NVIDIA-SMI/CUDA polling service in Python that lets engineers remotely monitoring vehicles' GPU.
- Identified and documented the effects of ROS's nondeterminism on downstream software
- Coded Pytests in Jenkins pipeline to enforce software conform to predefined requirements.

Software Developer Aug. 2018 – Jan. 2018
CGI, Canada *Richmond Hill, ON*
- Formulated $O(n)$ inter-service list streaming algorithm replacing the original $O(n^2)$ method.
- Sliced a Java Spring app into microservices that autoscale at 80% CPU usage across five Kubernetes nodes.
- Slashed redundancy and restricted threads count to reduce heap size of each microservice from 512MB to 256MB.
- Devised a rolling update strategy that incrementally replaces old pods with new ones, guaranteeing 0-downtime and constant space during an update.

Mobile App. Developer Sep. 2017 – Dec. 2017
Blackberry, Canada *Waterloo, ON*
- Moved data-loading logic from the main thread to into an AsyncTask, giving a smoother UI experience.
- Amalgamated provider-specific calendar rows classes into an abstract class to ameliorate loading bottlenecks.
- Replaced repetitive HTTP requests with WebRTC to stream user media across mobile and web.

Cloud Developer Jan. 2017 – April. 2017
Royal Bank of Canada *Toronto, ON*
- Mapped IP of incoming logs from Dynatrace against geocoordinates in an Elasticsearch pipeline to produce a Kibana graph that visualize geographic distributions of financial transactions for directors to see.

Skills

Languages: Java, Python, C/C++, Kotlin, HTML/CSS, Matlab
Frameworks: Android, Anaconda, Angular, Node.js, Flask, Pytorch, JUnit, Spring, Spring Boot
Devops: Kubernetes, Istio, Terraform, MongoDB, Cuda, Git, Docker, Google Cloud Platform, Azure
Software: ArcGIS, MapleSoft, AutoCAD, SolidWorks, Intellj
Certificates: Google Kubernetes Architect:10622413, Microsoft Java:16116022, Udacity Computer Vision:A65MRY7P
Background: Canadian, fluent in English, Chinese and conversant in Japanese (JLPT-N4)

Education

University of Waterloo Waterloo, ON
Master of Engineering, Computer Engineering *Aug. 2021*
Bachelor of Science, Honours Physics *Sept. 2016 – Aug. 2021*

Interests

Reading stuff, RTOS, AI, Blockchain, CV, Volunteering for causes, FPS and strategy games.