

# Yernur Nursultanov

· SOFTWARE SYSTEM ENGINEER ·

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*"The standard library saves programmers from having to reinvent the wheel."  
-Bjarne Stroustrup, creator of C++*

## Experience

### VDF Vertical

RESEARCH DEVELOPER [REMOTE]

Toronto, Canada

Sep. 2017 - Dec. 2017

- Developed a retrofit elevator hoistway sensor kit that runs on an open-source single-board computer, BeagleBone Green
- Reduced the projected cost by directly integrating existing clients' modules
- Implemented POSIX-compliant sensor libraries in C/C++ for ARM architecture which greatly increased readability and re-usability of code
- Maintained test plans of team-owned components with unit and system test scripts on a Jasmine for Node.js web-server
- Configured GitLab Continuous Integration for detecting build errors and cut down overall integration time
- Constructed a wood frame prototype for testing purposes and demo session

### BlackBerry QNX

CAMERA RESEARCH

Ottawa, Canada

Jan. 2017 - Apr. 2017

- Contributed software engineering expertise in the development of the new product features through the software lifecycle
- Improved support for IP/GigE Vision camera services for ADAS 2.0 sensor fusion framework
- Resolved low/medium/high priority tickets in robust and POSIX compatible C/C++
- Optimized buffer management for image post-processing by adding synchronization of timestamps directly from cameras' drivers and eliminating the necessity of memcpying
- Implemented the real-time Max-Point ratio configuration option that allows dynamic frequency tuning of LiDAR data
- Automated testing and environment setting with bash scripts to reduce examination time and testing overhead

## Education

### SFU(Simon Fraser University)

B.S. IN SOFTWARE SYSTEM

Sep. 2014 - Dec. 2018

## Skills

- Algorithms
- Data Structures
- Multimedia
- Compilers
- Embedded Systems
- Probability Theory
- Data Analysis
- Linear Algebra
- Web Information System

## Latest Projects

### CHOMP - Diet Monitoring

- Designed and built a website that allows monitoring nutritional intake
- Working on porting the simulator to a web app using Django and Bootstrap's CSS for the frontend part
- Implemented budgeting feature for meal planning and eating out using Python
- Designed and implemented database architecture for product nutrients in PostgreSQL

### ProPlanner - Choice Sorter app

- App improves users productivity by removing the component of decision making
- Developed with Golang and Gin-Gonic http framework for routing, GORM for interacting with Postgres DB
- Developed frontend using NodeJs with Bootstrap's CSS
- Future Direction: Implementation of browser extension

### Post Office System Simulator

- Made a Java Swing driven application that simulates post office systems
- The application uses Model View Controller design pattern to interact between the inner parts or views
- Simulator works by injecting a command, a script or an executable, that loads list of action into the system
- Worked on design a system for study of advanced scheduling techniques for delivering logistics in Pandemic environment

### Lossy & Lossless compressor

- Applied Huffman and LZW algorithms for lossless compression of data as well as a JPEG algorithm for lossy compression in Java
- Implemented GUI UI to observe compression ratios in Java swing framework
- Future Direction: Implementation of picture mosaic & switching to Python Kivy FW