HIEN**NGUYEN**

FULL STACK SOFTWARE ENGINEER
Software engineer skilled in web/mobile/desktop with experience in back end system,integration,devops,software architectures,optimization,data structures and algorithms.

PROJECTS

Benchmark program(on going)

Benchmark, profiling network communication protocols in distributed system between RPC, RMI, CORBA, MOM, Streams

Java mini compiler (on going)

Java compiler that has semantic validation, lexer and parser source to AST, symbol table, type checker compiler optimization|JIT on JVM, execution of Java on GPU, GC, Concurrent JVM

Distributed streaming platform Kafki(on going)

Distributed logging, messaging,streaming data connector built on top of kafka cluster|Data replication, process synchronization, master-slave election, work queue system, event processing, distributed DB.

ML AI Deeplearning Big data(on going)

Deep learning(NN,CNN, DNN, RNN, EA), ML(Regression, Decision tree, Bayesian, Clustering,Gaussian classifier for digits, Real time ML object detection, Sentiment analysis to classify reviews using Google Cloud NL API)|Mahout,Cloud vision,LSTM, Image classification(MapReduce, LSH),Distributed deep learning,Reinforcement learning|Big data Hadoop(HDFS) & Spark (Core, Streaming, SparkSQL,SparkR)|High performance computing parallel with K-means|AI (A*search),Determine optimal next move of a chess board game using Minimax algo with Alpha-beta tuning

Netflix clone|Distributed computing & large scale system(on going)

live video streaming service(OpenConnect,CDN), image compressing Spark, Realtime compress video&motion detection, transcode-encode(data chunk process in parallel), Hadoop, Metrics Kafka, ES clusters, Apache Chukwa, AWS ELB, EVCache, MySQL deployed on EC2(master-master), Distributed file system Hadoop |LB(routing, round robin)|Use shared and distributed memory programming model|Distributed crawler|sql tuning, indexing, query optimization,DB monitor, HA & replication, Db partitioning, Scale MySQL server, memcache, Replicas for scaling & HA (master-slave)|back up slaves|tuning JVM, Tomcat server concurrency,Executor framework

Algorithms project(on going)

Run and analyse algorithms on GPU parallel|Hashing, Sort(Bitonic sort, Radix sort, Merge sort), Network(Min/Max butterfly network), Graph (DFS, BFS, Dijkstra, Prim, Johnson)|Datastructures : Bloom filter, tree(AVL, RedBlack,Splay, Quadtree), Trie

Integration C/C++ with Java/Kotlin(on going)
Helper library support Java/Kotlin function call from C/ C++ with JNI

Flight booking (Got some stars and forks on github)

Backend services&integration Microservices architecture(eureka, config service, API gateway Zuul proxy,LB, circuite breaker,distributed tracing,spring cloud, cloud stream, sleuth,turbine server,etc)|Search flight service MySQL&distributed cache Hazelcast, Billing service RabitMQ&Avro,Passenger service on Cassandra database,Bid service used ES,Scheduling backup microservice DB,social network service Neo4J, ELK

Online shopping servicesAWS services for shopping system

Serverless architecture (API gateway, Lambda)shoppingcart, chat service, SQS,Cloudwatch|Crawl service with batch request run on EC2,AMI,ELB,Beanstalk|AWS Lex bot service|Upload object service, thumbnail media sharing S3, DynamoDB, AWS Elasticsearch|Logging, monitor|AWS Cloudformation|AWSCognito|Face detection AWS Rekognition|CloudFoundry|Pivotal

Junction HealthTech hackathon challenge 2019

Chat bot NLP (DialogFlowAPI) to give recommendation|Speech recognition for diary|Recognize user emotion based on facial recognition(Google VisionAPI, Camera) Give recommendation based on Machine Learning model|Connect and match user health problems to suitable specialist|JHipster tech stack

PROJECTS

Enterprise integration project

Real time chat service|Big data collection|Spark streaming web logs|CD/CI Kubernetes|Analyse performance of Spark vs Hadoop|Spin docker container for integration test|Data migration & processing|Process data in distributed batches to Cassandra DB|Transfer data from RDBMS to NoSQL ES

Desktop and hybrid mobile application

Facial recognition desktop application JavaFX, OpenCV, Tesseract, OCR, LIBSVM|Real time object detection|Meetup clone hybrid mobile application(Ionic), CD/CI build pipeline set up, Backend RESTful API(Node.js), MongoDB, Cordova plugins(Geolocation, Camera, component plugins)

Medium clone|ElasticSearch & Memcache performance tuning

ES (native,Scale cluster, full text search&inverted indices, lucene analyzers, mapping, custom analyzer,Query DSL, Doc routing, aggregation, bulk operation)|MySQL(Flyway migration, aggregate, store procedured, triggers, materialized views, events,binary log, replication,high performance index,partition data)|JMS (fanout,topic,plugin, async, clustering HA, LB for queue)

INDUSTRIAL EXPERIENCE

Full stack Software Engineer(Industrial IoT | Elisa Smart Supply Chain)   11/2019 – present
Elisa Corporation

Integration with other services written in Java(Spring framework)&C#|Processing different datasources|Microservices architecture|Deployment Pipeline(Azure Container group instance, Docker, DevOps)|Integrate Azure service bus(queue) to process Protocol Buffer data saved to Azure SQL DB|Azure ADB2C| Unit&Integration Test(JUnit5)

IT consultant | Software developer   09/2017 – 09/2019
Academic Work | Booky.fi Oy

Cataloging system|E-commerce projects|Book packaging automation machine project
API developing (PHP-Laravel), deployment|Server setup Ubuntu, virtualisation with Vagrant|Database MySQL/MariaDB set up on Centos7|Front end developing JS|Robot framework test

Junior Full stack developer   08/2017 – 09/2017
JHD Production Oy

Back end Node.js bug fixing, debugging MongoDB model and RESTful services|Front end JS(Angularjs)new features implementation|Deployment pipeline, CD/CI, Jenkins|Serverless architecture

EDUCATION

Master of Computer Science   2020 – present
Harvard School Of Engineering And Applied Sciences

(Online degree|Self taught) Advanced scientific computing|System development|Networking at scale|Advanced optimization|Data system|ML|AI|Computer networks&architecture|Algorithms|Big data

Bachelor of Information Technology   2016
Haaga-Helia University of Applied Science

Software engineering|ICT-infrastructures|IT security|Information technology

RESEARCH EXPERIENCE

Patent (on going)   Elisa Corporation

Patent with topic about streaming Google Protocol Buffer network data in AI search graph algorithms in multithread environment.

ACHIEVEMENTS | MISC

- Top4% Mercuri Urval Test (SAP Cognitive Ability test) |Certification of participation of Robodnic 2013 High School Robot competition(Vietnam) | Winner of 1 sector StupidHackxJunction 2017 | Google Cloud Platform training certification(Helsinki, FI) | Mozilla community | Ultrahack&RobotUprising hackathon member
- **Reference: SAP (Markku Helin(Director, Solutions Management))**