

HONGCHUAN WANG

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EDUCATION

Master of Science in Computer Science

2018 Fall - 2020 Spring

Montana State University, Bozeman, MT

Bachelor of Science in Computer Engineering

2012 - 2016

Montana State University, Bozeman, MT

PROJECTS AND RELEVANT WORK EXPERIENCE

Mutation Clustering in Software Testing *(2019 May - Present)*

Applying clustering algorithms to reduce the cost of mutation testing, combined with automatic test case generation using Metamorphic Relations. Currently working on extracting static features of java program.

Performance Evaluation of Network Tools *(2019 Spring)*

Deploying network communication applications including Amazon SQS, Apache Kafka, Apache Pulsar, MongoDB on Amazon EC2 instances and evaluating their performance under different scenarios with different parameter settings. <https://github.com/rocky1991/Net>.

Compiler Design *(2019 Spring)*

Design a simple compiler with ANTLR tool, implementing semantic actions and code generation with different data structures.

Teaching Assistant *Fall (2018 Fall)*

Teach data structures and algorithms labs using java.

Apache Spark NN Training Method Implementation *(2017 Fall)*

Implementing Evolutionary Strategy training method for learning neural network weights for the Multilayer perceptron classifier in Apache Spark's machine learning library.

Student Researcher *Fall (2015 Fall - 2016 Fall)*

Developed a gantry robot control system with FPGA SoC device. (Design FPGA component in VHDL; System integration; Testing and debugging software and hardware functionality; Design GUI with tcl script for easy testing).

SKILLS

- Metamorphic testing with Java for test case generation and program evaluation
- Deploying Amazon SQS, Pulsar, Kafka and MongoDB on Amazon EC2 instances
- Software test case evaluation using mutation testing tools(PIT, MuJava)
- Object-Oriented programming with python for machine learning(Building neural network, training with evolutionary algorithms)
- Understanding basic operation Kanewala Montana State University, Bozeman, MT 59717 Email: upulee.kanewala@montana.edu
- Knowledge of several database systems including PostgreSQL, HBase, MongoDB, and CouchDB, Neo4j, and Redis
- Experience in SoC device FPGA system design, system integration, and testing.
- Knowledge of system debugging with Tcl script
- Ability to design and test hardware register functions using C
- Matlab scripting skills
- Familiar with Linux(Linux Mint and Ubuntu) and Windows
- Bilingual: Chinese and English

REFERENCE

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