Hongrui Guo (WIP)

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Education

Nipissing University, ON, Canada 09/2017 – Present

- BSc Honours Specialization in Computer Science GPA 3.55/4.00
- Minor in Physics anticipated graduation date: 06/2021

Work and Research Experience

Jiangsu Feiliks International Logistics Inc., Jiangsu, China

Intern Programmer 06/2018 – 07/2018

- Front-end web development and C# GUI development

Nipissing University, ON, Canada

Research Assistant 10/2018 – 04/2020

- Multi-agent simulation and agent-oriented programming in Java and AnyLogic
- E-CARGO model (focused on Group Role Assignment (GRA)) and its applications
- Extension of COSC-4896 Honours Research I project

Research Assistant 09/2020 – Present

- Distributed RBF
    - Hydrology, protein
- SEEKR, DNA
- Extension of COSC-4897 Honours Research II project

Other Research Experience and Course Projects

COSC-3997 Senior Practicum 05/2019 – 08/2019

- Introduction to Machine Learning
- Embedded Empirical Mode Decomposition on electrocardiogram signals
- ECG signal classification with Self-Organizing Map (SOM)
- Mangrove classification from remote sensing images

COSC-4896 Honours Research I 09/2019 – 12/2019

- Multi-objective optimization for GRA
- relative localization through tag recognition on embedded devices
- Multi-UVA collaboration with E-CARGO model

COSC-4897 Honours Research II 01/2020 – 08/2020

- Multivariate time series classification
- Lower-limb movement classification from multi-channel electromyography signals

Publications

- H. Zhu, M. Yang and H. Guo, " Compare Collectivism with Individualism by Team Performance based on E-CARGO," in *CSCWD 2020: International Conference on Computer Supported Cooperative Work in Design, 2020, Dalian, China*. [accepted]
- SOM color mapping for psychology logo paper [acknowledgement]

Other Projects

Personal Projects

- SOM with 3-dimensional map

Other on-going research

- Dynamic qualification for GRA

Scholarship

- 2017 Carl Sanders Scholarship - Undergraduate
- 2018 Carl Sanders Scholarship - Undergraduate

Skills

- *Programming Languages*: especially experienced in Python (4 yr.), MATLAB, Java, C/C++ (3 yr.) and JavaScript; comfortable with Shell, C#, SQL, LabView and BASIC.
- 2-year experience on *Machine Learning* and *High-Performance Computing* on SHARCNET/Compute Canada clusters
- *Tools and Library*: Keras, TensorFlow, ArcGIS, Unity, WSL, Linux, Git, SSH, SOLIDWORKS
- *Languages*: English – fluent, Chinese – native speaker, Latin - beginner
- *Other Skills*: basic lab skills (chemistry lab Asst. during high school), basic electronics/parts-fabrication /CAD skills (FIRST® Robotics Competition), photo/video editing