Notice of the Final Oral Examination
for the Degree of Master of Science
of

BING GAO

BSc (Dalian JiaoTong University, 2007)

“Evolving Geospatial Applications: From Silos and Desktops to Microservices and DevOps”

Department of Computer Science

Tuesday, April 16, 2019
9:00 A.M.
Engineering and Computer Science Building
Room 660

Supervisory Committee:
Dr. Yvonne Coady, Department of Computer Science, University of Victoria (Supervisor)
Dr. Neil Ernst, Department of Computer Science, UVic (Member)

External Examiner:
Dr. Issa Traoré, Department of Electrical and Computer Engineering, UVic

Chair of Oral Examination:
Dr. Kathy Gaul, School of Exercise, Science, Physical & Health Education, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
Abstract

The evolution of software applications from single desktops in research labs to sophisticated cloud-based systems is challenging. In particular for applications that involve massive data sets, such as geospatial applications. But these new solutions give us an opportunity to improve development, maintenance and efficiency of the software entire lifecycle. Microservices and DevOps are new attempts which achieve huge success in the past few years. Microservices is an architectural style that structures an application as a collection of services. DevOps is a set of practices that automates the processes between software development and IT teams, in order that they can build, test, and release software faster and more reliably. Combined with lightweight virtualization solutions, such as containers, this technology will not only improve response rates, but also drastically improve software development.