

#### DEGREES OFFERED

• Ph.D. in Computer Science

• M.S. in Computer Science



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## THE GRADUATE SCHOOL | MONTANA STATE UNIVERSITY

# **Gianforte School of Computing**

Professors who have a wealth of experience, who are committed to your advancement, and who are willing to take the extra steps to make sure you get a quality education will surround you. You wil also be surrounded by a great group of fellow students with diverse interests. Finally, you'll be attending one of the most beautiful campus settings in the country. If the challenge of expanding your education and doing research in your chosen field interests you, we are anxious to have you join us.

## **PH.D. DEGREE PROGRAM**

Admission to the docctoral program follows the requirements of the College of Engineering and The Graduate School. It is helpful, but not necessary, to have a Master's or Bachelor's degree in Computer Science. Factors that the department uses in its admissions process include GRE scores, TOEFL or IELTS scores (for non-native English speakers), reference letters, GPA, and previous coursework.

## **M.S. DEGREE PROGRAM**

It is helpful, but not necessary, to have a Bachelor's degree in Computer Science. Students with non-Computer Science degrees at the Bachelor's level or above are also encouraged to apply; such students will generally be required to take appropriate foundational computer science courses while enroolled at MSU to make up Computer Science and related suject matter deficiencies prior to full acceptance into the Computer Science









Computer Science, continued

## **PROGRAM REQUIREMENTS**

## Ph.D. Degree

A Ph.D. student must complete a minimum of 60 credits of coursework beyond the Bachelor's degree or a minimum of 36 credits of coursework beyond the Master's degree.

## M.S. Degree

Students may pursue the Master's degree under the thesis option or the courses-only option. Both options require 30 credits. In the thesis option, 10 of these are thesis credits.

## **RESEARCH EXPERIENCE**

Ph.D. students gain research experience through their doctoral work, journal or conference submissions, and by attending conferences.

Thesis option Master's degree students gain research experience through their thesis and are expected to submit the results of their thesis work to at least one journal or conference.

#### **RESEARCH FACILITIES**

Graduate research and coursework can be performed on systems owned and operated by the Gianforte School of Computing. On-campus work is typically performed in laboratories or graduate student offices. A typical machine is a dual boot (Linux/Windows) PC. Intel-based Macs running on OS X are also available. Outside the department, MSU's University Information Technology provides additional computing infrastructure. The School of Computing is completely housed in MSU's high-technology Barnard Hall.

## FINANCIAL ASSISTANCE

A number of research and teaching assistantships are available for qualified graduate students. These appointments are normally for 19 hours per week during the academic year. Some appointments may also be available during the summer. Assistantships will only be offered to formally admitted graduate students. See the appropriate Computer Science M.S. degree or Ph.D. degree web page for more information.

## FACULTY

**Director** John Paxton

#### **Graduate Coordinators**

John Sheppard (Ph.D.) Mike Wittie (Master's)

#### **Professors**

- Brendan Mumey: applied algorithms, combinatorial optimization, green networking, computational biology
- John Paxton: artificial intelligence, machine learning, computer science education
- John Sheppard: machine learning, data mining, evolutionary computation, Bayesian methods, fault diagnosis and prognosis, domain ontologies
- Binhai Zhu: applied computational geometry, intelligent web searching, combinatorial optimization

#### **Associate Professors**

Clemente Izurieta: software engineering, software evolution, ecological modeling Mike Wittie: networking, distributed systems, connected vehicles

#### **Assistant Professors**

- Brittany Fasy: computational topology and geometry, topological data analysis, road network analysis, algorithms
- Indika Kahanda: Bioinformatics and Computational Biology, Machine Learning, Data Mining, Biomedical Natural Language Processing
- Upulee Kanewala: software testing, software engineering, machine learning, scientific software development and testing

#### Instructors

Mary Ann Cummings: software engineering Rance Harmon: computer science education Hunter Lloyd: robotics, computer vision, multimedia and animation