Computational Expression (CMPSC 100)

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August 28, 2019
What will we explore in this class?

Introduction to the field of computing
Algorithms
Software
Programming Languages - Java
Applications of computer science
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- Algorithms
- Software
- Programming Languages - Java
- Applications of computer science
Computer Science Involves More than Programming!

- People
- Teams
- Writing
- Speaking
- ...
- Ethics
Keep in Touch

- Email
- Office hours (Alden 110)
- Course website (https://cs.allegheny.edu/sites/jjumadinova/teaching/100)
- Technical leaders (https://www.cs.allegheny.edu/teaching/teachingassistants/)
- Slack channel (more on this later)
- Github Organization (more on this later)
Announcements

- No Lab this week
- Practical session on Friday, bring your laptop
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  **Computer science is the study of computation.**

  Computers are a medium for expression in computer science.
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- computational solutions to problems in math, science, medicine, business, education, journalism, ...
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Computer Science Job Projections

Total Predicted Applied Computer Science Job Openings in the Next 10 Years

- Software Developers, Applications: 323,501
- Computer User Support Specialists: 169,390
- Software Developers, Systems Software: 124,053
- Computer and Information Systems Managers: 109,569
- Web Developers: 75,865
- Computer Programmers: 48,678
- Computer Network Support Specialists: 40,948
- Database Administrators: 40,816
- Information Security Analysts: 32,959

Total Replacement and Growth Job Openings Next 10 years

Projected job openings for types of STEM occupations, 2014 to 2024

- Computer occupations
- Engineers
- STEM-related management
- Life and physical science technicians
- Drafters, engineering technicians, and mapping technicians
- STEM-related sales
- Life scientists
- STEM-related postsecondary teachers
- Physical scientists
- Mathematical science occupations
- Architects, surveyors, and cartographers

Source: JobsEQ®
Computer scientists face **interesting challenges** and are always learning new skills.

They generally have reported feeling very satisfied in their jobs. In one study, 87% of survey respondents (software engineers) said that they felt happy with their work.

https://www.machinedesign.com/learning-resources/engineering-profession-still-good-job

**Bureau of Labor Statistics**