



May 5, 2022

## Career Exploration through Summer Opportunities

### Interested in a career involving computer science?

**Computer and Information Technology Occupations**

Employment of computer and information technology occupations is projected to grow 13 percent from 2016 to 2026, faster than the average for all occupations. These occupations are projected to add about 557,100 new jobs. Demand for these workers will stem from greater emphasis on cloud computing, the collection and storage of big data, and information security.

The median annual wage for computer and information technology occupations was \$86,320 in May 2018, which was higher than the median annual wage for all occupations of \$38,640.

OCCUPATION	JOB SUMMARY	ENTRY-LEVEL EDUCATION	2018 MEDIAN PAY
Computer and Information Research Scientists	Computer and information research scientists invent and design new approaches to computing technology and find innovative uses for existing technology. They study and solve complex problems in computing for business, medicine, science, and other fields.	Master's degree	\$118,370
Computer Network Architects	Computer network architects design and build data communication networks, including local area networks (LANs), wide area networks (WANs), and Intranets. These networks range from small connections between two offices to next-generation networking capabilities such as a cloud infrastructure that serves multiple customers.	Bachelor's degree	\$109,020
Computer Programmers	Computer programmers write and test code that allow computer applications and software programs to function properly. They turn the program designs created by software developers and engineers into instructions that a computer can follow.	Bachelor's degree	\$84,280
Computer Support Specialists	Computer support specialists provide help and advice to computer users and organizations. These specialists either support computer networks or they provide technical assistance directly to computer users.	See How to Become One	\$53,470

Computer systems analysts, sometimes called systems architects.

Because [Information Technology jobs](#) are financially rewarding and varied, the University of Minnesota is hosting an affordable (\$60-100) week long day camps for high school juniors and seniors specifically focused [Computing Academy](#) for female students...

**Summer Computing Academy for female students (junior high and high school)**

This week (June 19-21, 2019) and one week (June 24-26, 2019)

The main goal of the program is to teach computer programming using Python in an online-based program to build the University of Minnesota campus. The program will include lessons on fundamental programming concepts and on the Python programming language together with various hands-on experience in a computer lab. Instructors will be there to guide students and answer their questions. Participants will have ample time to work on a computer lab to develop programs for email, notes, image processing, and other applications under close supervision of teaching assistants. In addition, there will be a variety of career planning and discovery activities.

The program will run over the two Fridays at 9:00am (for organized activities) and 10:00am (for self-paced work). Students will need their own transportation to campus.

Eligibility: We are offering two options:

1. Two-week program: two weeks (June 19 to 21, 2019) for female high school students above 10th grade (16 to 18) and incoming college students. We do not require specific programming knowledge but expect familiarity with using computers. We will provide the 21-day program.
2. One-week program: One (June 24 to 26, 2019) for female students in junior high or high school who have no programming experience. We will introduce them to the foundation of programming and the programming language Python. We will complete the 21-day program.

Cost: Thanks to the generosity of an anonymous donor and of Polaris we can offer the Summer Computing Academy for a low cost/fee for the Scholarship available upon request. The cost for attending the full program of two weeks is \$100.00. The cost for attending the one-week program is \$60.00. This includes lunch every day, snacks, access to computers, and academic materials.

Application: Both programs are full. You can register for the waiting list at <https://open.illinois.edu/2019/06/19/summer-computing-academy/>.

The registration fee will be refunded after you have been accepted that you have been accepted.

Location: Polaris

Professor Maria Diaz (m.diaz@umn.edu)  
Department of Computer Science & Engineering, University of Minnesota  
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Contact Us

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... as well as a variety of [STEM programs](#) for all students.

**COLLEGE OF Science & Engineering**

Home > Summer camps

### Summer camps

Youth are invited to engage and build capacity through immersive, on-campus explorations of science, engineering, technology, or medicine.

#### Discover STEM

- During this three-day, interactive virtual conference, participants will network with peers while learning about current topics in research and academic programs, and will explore potential careers through virtual presentations, laboratory tours, science and technology demonstrations, and question and answer sessions.
- Students entering grades 11 and 12 in the upcoming fall are eligible to apply.
- Organizer: College of Science and Engineering Student Services
- Visit the [Discover STEM web page](#).

**More About K-12 Outreach**

- [CSE K-12 Virtual Classroom Resources](#)

### Career Learning for students interested in a hands-on education...

In many parts of the world, the path toward well-paying careers starts with an apprenticeship. Apprenticeships are a structured form of paid worker training that combines on-the-job learning with classroom instruction. [The benefits?](#)

- **Income & Experience:** apprentices are typically paid 50-60% of what their eventual wages will be while they're learning the job.
- **Increased Financial Security:** according to the Department of Labor, workers who complete apprenticeships have \$50,000+ starting salaries and a \$200,000 - \$300,000 lifetime financial advantage.
- **Education with Limited Debt:** apprenticeship programs may provide college credits that can be rolled into 4 year degrees.

Minnesota offers several ways to learn about apprenticeships including this [Department of Labor](#) site:

**APPRENTICESHIP YOUR PATH TO SUCCESS**

Apprenticeships are a structured form of paid worker training that combines on-the-job learning with classroom instruction. Apprenticeships are a structured form of paid worker training that combines on-the-job learning with classroom instruction.

**BENEFITS OF APPRENTICESHIPS**

- Earn while you learn
- Gain hands-on experience
- Receive on-the-job training
- Receive classroom instruction
- Receive a credential
- Receive a college credit

and the Minnesota [Careerwise database](#):

**MINNESOTA STATE CAREERwise Education**

Explore Careers | Find Your Education | Find a Job

Education Search Tools

Search: Colleges / Universities | Majors | Programs | Courses (level and semester) | Certifications | Short-Term Training | Apprenticeships | **ASE**

An apprenticeship is an employer's formal training program combining on-the-job learning with technical instruction for a specific trade. This tool lists registered apprenticeships. [Learn more about registered apprenticeship and about youth apprenticeship.](#)

• Browse apprenticeships by region

• OR Browse apprenticeships by career

View All

- Agriculture, Food, and Natural Resources [View Careers with Apprenticeships](#) | [Learn More](#)
- Architecture and Construction [View Careers with Apprenticeships](#) | [Learn More](#)
- Arts, AV Technology, and Communications [View Careers with Apprenticeships](#) | [Learn More](#)
- Health Science [View Careers with Apprenticeships](#) | [Learn More](#)
- Hospitality and Tourism [View Careers with Apprenticeships](#) | [Learn More](#)
- Law, Public Safety, and Security [View Careers with Apprenticeships](#) | [Learn More](#)
- Manufacturing [View Careers with Apprenticeships](#) | [Learn More](#)
- Transportation, Distribution, and Logistics [View Careers with Apprenticeships](#) | [Learn More](#)

**Summer is a GREAT time to investigate the potential options and resources that exist within the apprenticeship universe!**



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Part 4

# Life Skills

## The Enduring Value of a Recreational Reading List

The college application process is [biased toward readers](#). Most of the classes that colleges and universities look for on a high school transcript require an ability to absorb, analyze, and retain written information. Standardized college admission tests (ACT and SAT) measure reading aptitude in terms of speed and comprehension. Simply completing a college application requires significant reading stamina and attention to detail.

Readers also have [an advantage beyond college](#) including reduced stress, increased emotional intelligence, empathy, self-discovery, concentration, imagination, and written and verbal communication skills. Not only is reading a primary source of lifetime learning, mental stimulation and entertainment for most adults, it may mitigate age associated memory loss! Go strong brains!

The bottom line? Embracing recreational reading is one of the best ways to position yourself for success in life. Summer presents a great opportunity to really ramp up the time you spend free reading.



Looking for suggestions? Start with your high school teachers and/or local librarian. Need more? Like fiction? [Brightly](#) has a list for you. Reading with college in mind? Many colleges and universities have a required summer read chosen for its relevance, ability to challenge assumptions, spark deeper conversations and build connections between incoming students and the wider campus community. Click [here](#) to see what shows up on their lists. Ready to tackle some weightier toms? Try [If you Only Read a Few Books in 2019, Read These](#) or [30 Books Everyone Should Read at Least Once in Their Lives](#). Want a mix of life affirming essays, non-fiction, fiction, biographies and memoirs? Consider the 4 Tendencies author's [monthly book lists](#). Need a list for younger teens? The [YMCA has a list](#) for you. It all comes down to making READING an important part of what you do each day!



## Career Exploration: Film

FilmN<sup>o</sup>rth is a St Paul non-profit focused on empowering artists to tell their stories and launch and sustain successful careers. A leader in a national network of independent filmmakers, FilmN<sup>o</sup>rth strives to create a diverse community of film and media artists.



[FilmN<sup>o</sup>rth](#) offers a variety of summer youth programming including a 3-week FilmN<sup>o</sup>rth Academy for ages 17-24. Topics such as screenwriting, narrative film and music video production, animation and special effects, acting, street photography and more! Teens are also invited to register for their Adult Ed courses. Week long camps for teens 14-17 include: iPhone Animation/Photography, After Effects Motion Graphics, Comedic Animation, Adobe CC Animation, and On-Camera Acting.

To learn more, contact FilmN<sup>o</sup>rth's Youth Program Manager at 651.644.1912 x4. Apply early. Limited need-based scholarships may be available.