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#### **COLLEGE OF COMPUTING & INFORMATICS**

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Artificial Intelligence & Machine Learning • Computer Science

Computing & Security Technology • Data Science

Economics and Data Science • Software Engineering











# AT THE COLLEGE OF COMPUTING & INFORMATICS (CCI) AT DREXEL UNIVERSITY, our unique structure — bringing computer and information sciences together under one roof in a dynamic, collaborative college — allows us to spot trends before they emerge and to craft new classes and curricula to respond quickly to those trends.

Led by a world-class faculty, our cross-cutting, interdisciplinary undergraduate programs instill the knowledge and skills necessary for our students to lead and innovate across industries in a rapidly evolving technological landscape.

You will learn how to learn. To be successful in the ever-evolving technology space, you will need to cultivate a habit of lifetime learning, and we will teach you how to do that.

Through experiential learning and applied research, our students are provided a creative and collaborative space to hone their skills both inside and outside the classroom.

Drexel's renowned co-operative education program offers students the chance to network, test their careers, and make a real-world impact on today's most pressing technology challenges. With so many of our undergraduate students participating in co-op, it's clear our students are making an impact well before graduation.

Join us at Drexel,
where academics
meet the real world.



## STUDENT LIFE at CCI

#### **EXPLORE THE CITY**

As a hub for technology, business and the arts, Philadelphia offers many educational and career opportunities for students, as well as cultural events and entertainment.

#### COLLABORATE

Study and share ideas in our new, state-of-the-art CCI Commons computer lab and/or the CCI Learning Center.

#### **BUILD YOUR COMMUNITY**

Live, learn and socialize with peers in our residential learning communities.

#### **PLAN YOUR PATH**

Our undergraduate peer mentors assist new students with the transition to college, while our professional academic advisors help students plan their academic path through graduation.

#### **GET INVOLVED**

With countless student events, and over 300 student groups, chapters and organizations at Drexel, there are many ways to make friends, learn something new and pursue your passion.





#### Events Include



#### **Philly Codefest**

Drexel's largest hackathon presented by CC, is open to both students and professionals, to develop tech solutions to real world problems.



#### **Transformina Tech Initiative**

CCI is devoted to enagaing the creative and professional potential in every person, no matter their prior experiences or aspirations with technology.



#### **CCI Corporate Partners Program**

**Learn from CCI Corporate** Partners and industry experts about the latest trends in technology, and take advantage of networking opportunities for co-op and job positions in your area of study.

#### Student Groups Include

#### TechServ

TechServ members help refurbish computers for donation to Philadelphia communities in need. The group also works in communities abroad.

#### **Drexel Blockchain**

Provides an open space to establish community discussion amongst individuals and industry professionals who are passionate about all things blockchain.

#### **Drexel Game Developers Group**

Promotes game development within Drexel's student community.

#### **Drexel CyberDragons**

Trains students in practical technical cybersecurity skills.





# Connecting Industry to the Classroom

CCI's Corporate Partners Program aims to connect CCI with industry to create a large scale, sustainable ecosystem for the development, recruitment and retention of top tech talent.

Built on a foundation of innovation and collaboration, the program provides CCI students with a unique opportunity to engage with industry at various hands-on, technical workshops, co-op information sessions, in-person tours, and exclusive career networking events.

Industry connections also help us ensure that our curriculum, as well as other academic and professional programs, continually meet the everchanging needs of employers.

The Corporate Partners Program is comprised of more than 45 partners, including nonprofits, major corporations and startups that span a diverse range of industries.

Learn more at drexel.edu/(ci/cpp

# College of COMPILITIONS COMPREHENSIVE & INTEGRATIVE COVERAGE COMPREHENSIVE & INTEGRATIVE coverage Take a look to see what we have to offer in each of our undergraduate programs Take a look to see what we have to offer in each of our undergraduate programs.

# ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

**COMPUTER SCIENCE** 

COMPUTING & SECURITY TECHNOLOGY

**DATA SCIENCE** 

**ECONOMICS & DATA SCIENCE** 

SOFTWARE ENGINEERING

### ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Learn every aspect of this discipline and how to harness its power for societal good. The Bachelor of Science in Artificial Intelligence & Machine Learning (BSAIML) provides a strong foundation in these areas, combining conceptual and theoretical knowledge with hands-on practice and applications. The program is designed for maximum flexibility, allowing students to tailor their study of AI and machine learning along specific focus areas (e.g., theory, data analytics, hardware, and/or practical applications).

Through coursework and possibly double majors, students can also blend their study with a wide variety of other fields, including computing, physical or social sciences, engineering, and arts and humanities. The hands-on curriculum combined with co-op provides real-world experience that culminates in a full-year team capstone project involving in-depth study and application of computing and information science.

Graduates of the BS AIML program are in high demand in a vast array of industries where knowledge of AI and machine learning is critical for success.

#### **Job titles for BSAIML grads:**

The demand for computing skills is tremendous and growing with highly paid jobs. Most professionals in the field focus on the design and development of artificial intelligenceand machine learning-centered applications.

Typical jobs include software engineer, programmer, data scientist, systems analyst or **consultant**, and manager of technical staff. Most positions require at least a bachelor's degree.

Relevant work experience, such as that provided by co-operative education, is also very important, as cited by the Occupational Outlook Handbook published by the US Bureau of Labor Statistics.

**Faculty Member Spotlight** 



**Associate Professor, Computer Science** 

school, I loved gaming, which introduced me to science and led me to where I am today."

When I was in high the field of computer

#### **COURSES HE TEACHES:**

Machine Learning and Applications of Machine Learning.

#### PROJECTS THAT STUDENTS WORK ON:

In the Machine Learning course, students learn how to build libraries. In Applications of Machine Learning, students explore the latest trends in generative AI and work with those resource tools.

> **ADVICE FOR STUDENTS:** All is quickly being adopted across nearly every industry. I suggest students focus on the opportunities that emerge from various disciplines and fields.

#### **FAVORITE PART OF HIS JOB:**

I love working with students at CCI because they bring new and relevant information to my research and coursework.

# COMPUTER SCIENCE

Learn about the theory and practice that makes computing effective

The Bachelor of Science in Computer Science(BSCS) program covers core areas including programming, data structures, programming language concepts and systems architecture. Students also select tracks in areas such as artificial intelligence, security, graphics and vision, human-computer interaction and software engineering. Optional concentrations include Game Programming and Development (GMPD) and Computer Security.

CS majors tend to be skilled at math and writing code and like to apply computer science to solve complex computing problems.



# MIHIR

Kao

hometown: Amritsar, India

As an academic discipline, Computer Science is the perfect blend of theory and practice.

#### **MOST RECENT CO-OP POSITION:**

Research co-op with CCI Assistant Professor Shahin Jabbari, PhD on Explainable AI

#### Available minors for BSCS majors: Job titles of recent BSCS grads:

Data Science
Computing Technology
Human-Computer Interaction
Information Systems
Security Technology
Software Engineering

OR MORE THAN 100 MINORS ACROSS THE UNIVERSITY!

Web Developer,
Software Systems Engineer,
Software Developer, Network Engineer
and Application Analyst

FAVORITE COURSES: CS457/CS458 - Data Structures and Algorithms I/II, CS440 - Theory of Computation, CS380 - Artificial Intelligence, CS383 — Machine Learning, CS270 - Mathematical Foundations of Computer Science, and CS172 — Computer Programming II

**DREAM JOB:** Computer Science Researcher & Consultant

#### **ACTIVITES/CLUBS/SOCIETIES:**

Drexel Computer Science Theory Reading Group, Maya Literary Magazine, and the Mathematics Student Organization

# COMPUTING & SECURITY TECHNOLOGY

Learn how to plan, manage and operate the information technology infrastructure

The Bachelor of Science in Computing and Security Technology (BSCST) program provides hands-on experience in managing and operating computer servers, networks, Web and mobile systems, and databases with particular attention to secure operations. Students must choose one of two concentrations: Computing Technology and Computing Security. The program is available as an online degree-completion program or as an on-campus face-to-face program.

BSCST majors tend to be hands-on and like to master technical details to make complex systems work smoothly and securely.



# BILLY

hometown: Somers, NY

The CST major has allowed me to focus on gaining a foundational understanding of infrastructure in addition to learning about cybersecurity

#### **MOST RECENT CO-OP POSITION:**

Library Scientist at Epismart; Internal Controls Analyst at FMC Corporation; Systems Engineer at Susquehanna International Group.

#### WHEN HE'S NOT IN CLASS HE IS:

going shopping on South Street

**DREAM JOB:** Being a Blue-Team security analyst for a video game company

#### **ACTIVITES/CLUBS/SOCIETIES:**

**Drexel CyberDragons** 

#### **Available minors for BSCST majors:**

Computer Science
Data Science
Human-Computer Interaction
Information Systems
Software Engineering

OR MORE THAN 100 MINORS ACROSS THE UNIVERSITY!

### Job titles of recent BSCST grads:

Security Administrator, Chief Information Security Officer, IT Audit Manager, Project Manager, and Lead Systems Engineer DATA SCIENCE

Learn how to make sense and find meaning in oceans of data

The **Bachelor of Science in Data Science (BSDS) degree program** responds to the explosive growth of large-scale data sources and the people needed to address challenges within data management in a variety of environments.

BSDS students study data mining, information retrieval, visual analytics, social media trend spotting, human computer interaction and information policy. BSDS students learn how to create novel information products, develop new insights about people's behavior and solve problems that require large and disparate datasets, in domains such as health care, finance, research and development, and business operations.

BSDS majors tend to be good with quantitative analysis and like making sense out of data and presenting useful information in ways that others can understand.

In partnership with the School of Economics in the LeBow College of Business, CCI also offers a new **BS in Economics & Data Science**, which focuses on applying data science concepts in the economics domain.

#### **Available minors for BSDS majors:**

Computer Science
Computing Technology
Human-Computer Interaction
Information Systems
Security Technology
Software Engineering
OR MORE THAN 100 MINORS

**ACROSS THE UNIVERSITY!** 

### Sample job titles for BSDS grads:

Data Scientist, Business Intelligence Officer, Information Architect, and Usability Analyst



# YARA

1. (0200)

hometown: Khartoum, Sudan

Data science provides a unique blend of analytical challenges and opportunities to decode patterns that can have profound impacts on industries and individuals alike.

#### **MOST RECENT CO-OP POSITION:**

R&D Software Developer Co-op at iPipline

#### WHEN SHE'S NOT IN CLASS SHE IS:

exploring the city with friends or traveling to nearby states and exploring those.

**DREAM JOB:** Starting a company that aims to make technology more accessible to minority groups while offering comprehensive professional and personal development resources.

#### **ACTIVITES/CLUBS/SOCIETIES:**

Marketing Chair for Drexel Women in Computing Society (WiCS), Course Assistant for CCI, Member of National Society of Black Engineers (NSBE)

# ECONOMICS & DATA SCIENCE

Learn how to leverage data to predict trends, solve business challenges, and make better decisions

The Bachelor of Science in Economics & Data Science (BSEDS) program focuses on applying data science concepts in the economics domain and allows undergraduate students to learn from subject matter experts in CCI and the School of Economics in the LeBow College of Business.

This interdisciplinary, STEM-designated, combined degree teaches students how to manage, manipulate, and parse data to extract knowledge and insight. Through the study of economics, students learn how the design of platforms shapes incentives, drives behavior, and determine social and economic outcomes including equity and efficiency.

BSEDS majors are passionate about both business and data and the story that numbers can tell to help optimize and problem-solve organizational challenges.



KELSEY

hometown: Singapore

This interdisciplinary major has enabled me to acquire fundamental skills at the intersection of business, social science, and technology, which align with my career interests.

#### **MOST RECENT CO-OP POSITION:**

Software Engineer at Macquarie Group

#### **FAVORITE COURSES:**

INFO 250 Information Visualization & INFO 212 Data Science Programming I

#### **DREAM JOB:**

Leading a team to create great products with good design and for humans in mind

#### **ACTIVITES/CLUBS/SOCIETIES:**

Tech Director of Drexel Women in Computing Society, Drexel InCHAARG, Web & Digital Designer at Drexel's Office of the Provost, NLP Research at Drexel Healthcare Informatics Lab

#### **Available minors for BSEDS majors:**

Computer Science
Computing Technology
Human-Computer Interaction
Information Systems
Security Technology
Software Engineering

OR MORE THAN 100 MINORS ACROSS THE UNIVERSITY!

### Sample job titles for BSEDS grads:

Data Scientist,
Market Research Analyst,
Machine Learning Engineer
or Applications Architect

# SOFTWARE ENGINEERING

Learn how to design and build high-quality software products

Bachelor of Science in Software Engineering (BSSE) majors learn how to design and build high-quality software products. As high-quality software is challenging to create, software engineering focuses on the knowledge and skills to meet that challenge and to develop software on schedule and within budget. The BSSE curriculum covers the fundamental concepts and skills to prepare the next generation of software engineering professionals, including topics such as specification, design, software evolution, quality control and project management.

BSSE majors tend to be good at quantitative analysis and writing code, and they like to apply methods that allow individuals and teams to create and improve large software systems.



# KYLE Duinlan

hometown: Chesterfield, NJ

There is just something amazing about creating, designing and developing innovative and robust pieces of technology that form the world as we know it today and propel us into the future.

#### **MOST RECENT CO-OP POSITION:**

SAP AMERICA - STAR PROGRAM INTERN

#### WHEN HE IS NOT IN CLASS HE'S:

spending time exploring the city! There are hundreds of incredible places to explore and things to do.

#### **DREAM JOB:**

My dream job is to work as a software engineering manager. I really like to work with people and lead teams to success so combining that with my love of computers and programming sounds like the ideal job!

#### **ACTIVITIES/CLUBS/SOCIETIES:**

Drexel Pep Band

### Sample job titles for BSSE grads:

Software Engineer,
Software Architect,
Software System Project Manager,
and Software Project Team Leader

#### **Available minors for BSSE majors:**

Computer Science
Computing Technology
Data Science
Human-Computer Interaction
Information Systems
Security Technology
OR MORE THAN 100 MINORS
ACROSS THE UNIVERSITY!

### CCI CO-OP Fast Facts

\$25

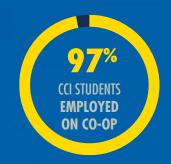
MEDIAN HOURLY CO-OP **SALARY FOR CCI STUDENTS** 

1 OR 3

COMPLETE 1 CO-OP ON A 4-YEAR **SCHEDULE OR 3 CO-OPS ON A 5-YEAR SCHEDULE** 

CO-OP SALARY

**CCI STUDENTS EARN THE HIGHEST CO-OP SALARY OUT OF ALL DREXEL STUDENTS** 



#### WHERE OUR STUDENTS **CO-OP (SAMPLING):**

Amazon, Google, Microsoft, Apple, IBM, Johnson & Johnson, Lockheed Martin, **Comcast Corporation, Susquehanna** International Group LLP, SAP America, Oracle Primavera



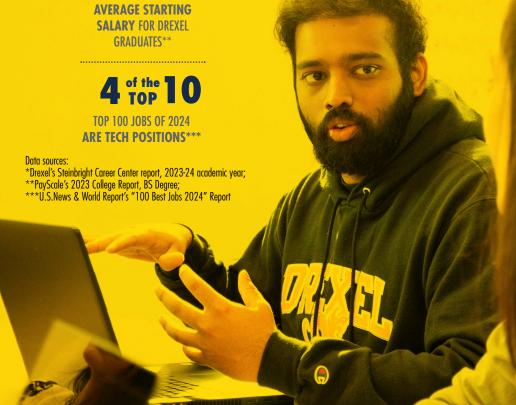
### CAREER Fast Facts



OF GRADUATES ARE **EMPLOYED OR ENROLLED IN GRADUATE EDUCATION\*** 

\$83,000

**SALARY FOR DREXEL** 



WHERE OUR GRADUATES

Co, Lockheed Martin, GlaxoSmithKline

Amazon, Google, Microsoft, Yahoo! Inc., Cisco

Systems, IBM, eMoney Advisor LLC, SAP America,

Zynga, Comcast Corporation, JPMorgan Chase &

**WORK (SAMPLING):**