Graduate Programs at SICE

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Executive Associate Dean for Academic Affairs

School of Informatics, Computing, and Engineering
Indiana University Bloomington

April 15, 2019


STOP

Bloomington, Indiana

- Southwest of Indianapolis, 7th largest city in the state, established in 1818 "a haven of bloom"
- Population: 85,071 (2017)
- Academy Award-winning 1979 movie *Breaking Away*, featuring a reenactment of Indiana University's annual Little 500 bicycle race
- Lakes and national parks
- Highly multicultural
- Art and music festivals
- International cuisine

- 2017 Best Cities for Entrepreneurs: #24 out of 50
- Vibrant and growing ecosystem of local start-ups
- #31 in the "Top 100 Best Places to Live" in 2018 by Livability.com
- Over 13 major festivals each year
- 12% below the national average for the cost of living
- Tech sector employment has grown by over 80%
- #2 in the nation among 124 small metros for high tech GDP concentration

Indiana University

- Established in 1820
- IU Population 43,710 (2017)
- 9 Nobel laureates, 17 Rhodes Scholars, 17 Marshall Scholars, and 5 MacArthur Fellows.
- 6 Academy Awards, 49 Grammy Awards, 32 Emmy Awards, 20 Pulitzer Prizes, 4 Tony Awards, and 104 Olympic medals (55 gold, 17 silver, and 32 bronze).

Notable Alumni

- James Watson, one of the co-discoverers of the structure of DNA
- Jimmy Wales, the co-founder of Wikipedia
- Robert Gates, the 22nd United States Secretary of Defense
- Dag Kittlaus, CEO and co-founder of Siri and Viv
- Suzanne Collins, award-winning author of The Hunger Games series
- Hoagy Carmichael, composer and songwriter
- John Chambers, executive chairman and former CEO of Cisco Systems
- Mark Cuban, billionaire investor

SICE History

- **2000**, School of Informatics
- **2005**, School of Informatics
  (CS joined the school)
- **2009**, School of Informatics and Computing
- **2013**, School of Informatics and Computing
  (SLIS joined the school)
- **2015**, Intelligent Systems Engineering Department and Program were approved
- **2017**, School of Informatics, Computing, and Engineering
- SICE Population (2018): 3100 (Total), 1962 (Undergraduate), 772 (MSc), 329 (PhD)

SICE Structure

- Department of Computer Science
- Department of Informatics
- Department of Information and Library Science (graduate program)
- Department of Intelligent Systems Engineering
- Data Science Program (graduate program)

Department of Computer Science

- Graduate Degrees
  - M.S. in Computer Science
  - M.S. in Bioinformatics
  - M.S. in Secure Computing
  - Dual Degree in Secure Computing and the Russian and East European Studies
  - M.S. in Cybersecurity Risk Management (jointly with Maurer and Kelley)
  - Ph.D. in Computer Science
  - Ph.D. in Cognitive Science and Computer Science
    (A dual major in cognitive science and computer science)
  - Ph.D. Minor in Computer Science

Department of Informatics

- Graduate Degrees
  - M.S. in Informatics
    (Complex systems, proactive health informatics, human-computer interaction design, music informatics, intelligent and interactive systems, computing, culture and society, and virtual heritage)
  - M.S. in Human-Computer Interaction Design
  - Ph.D. in Informatics
    (Multiple tracks)
  - Ph.D. Minors in Informatics
    (Bioinformatics, complex networks and systems, data science, human-computer interaction, informatics, music informatics, security informatics, and social informatics)

Information and Library Science

- Master of Information Science (M.I.S.)
- Accelerated Master's Program in Information Science
  (B.S. or B.A. and a Master of Information Science)
- Master of Library Science (M.L.S.)
- Accelerated Master's Program in Library Science
  (B.S. or B.A. and a Master of Library Science)
- Ph.D. in Information Science
- Ph.D. minors: ILS, Information Science
- Graduate Certificate in Information Architecture

Department of Intelligent Systems Engineering

- Graduate Degrees
  - Master of Science in Intelligent Systems Engineering
  - PhD in Intelligent Systems Engineering
    (Tracks : Bioengineering, Computer Engineering, Cyber-physical Systems, Environmental Engineering, Molecular and Nanoscale Engineering, Neuroengineering)

Data Science

- Data Science GR CRT
- Data Science MS
- Data Science MS Online

Graduate Certificates

- Data Science GR CRT
- Cybersecurity GR CRT
- Information Architecture GR CRT

Ranked List by Enrollment

- Data Science Online, 294
- Data Science MS, 145
- Computer Science PhD, 136
- Computer Science MS, 126
- Informatics PHD, 110
- Library Science MLS, 89
- Human Comp Interaction MS, 85
- Intelligent Systems Engineering PhD, 69
- Information Science MIS, 36
- Data Science GR CRT, 34
- Information Science PHD, 25
- Computer Sci-BS/MS, 20
- Intelligent Systems Engineering MS, 11
- Cybersecurity GR CRT, 7
- Secure Computing MS, 6
- Informatics MS, 5
- Information Architecture GR CRT, 1
- Bioinformatics MS, 0

A Peek at the Pipeline

- A graduate program in AI

A Peek at the Pipeline

- A graduate program in AI
- Experiential learning in Silicon Valley

Employment

- F-1 students need authorization for most categories of work.
  - Job fairs
  - Classified ad, The Indiana Daily Student (IDS)
  - Academic departments
  - University employers: Residence halls (cafeterias, center stores, etc.), Indiana Memorial Union (many different positions), Wells Library and school libraries, Museums, Recreational sports (referees, supervisors, etc.).

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- You can work on campus up to 20 hours per week during fall and spring semesters (20 hours combined for all jobs).

Optional Practical Training (OPT)

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- USCIS will need three to four months to process an OPT application.

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- Working without proper authorization is a violation of your legal status that will require the termination of your Student and Exchange Visitor Information System (SEVIS) record.

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- Start the program when a job offer from a recruiting company is imminent.
- The visa process can take several months, with no guarantee of securing an H-1B visa. Employers will cover the full cost of the H-1B visa process.

SICE Career Services

- Especially trained staff in immigration policies
- Very good understanding of the needs of international students
- Applicant tracking system
- Résumé building and strategy design for international students

Some Stats

- Classes of 2016,2017,2018: 1253 students
- CS MS 36%, DS MS 25%, ILS MS 19%, HCI/d MS 12%,
- In RES group (1125 students): 64% F-1 visa, 33% US Citizen
- In RES group (1125 students): India 50%, USA 34%, China 10%

Post-Graduation Outcomes (India)-DS

Year	Employed	Seeking Employment	No Inf.	Total
2016	1	0	1	3, 67%
2017	54	5	4	75, 84%
2018	85	6	4	111, 86%

Post-Graduation Outcomes (India)-CS

Year	Employed	Seeking Employment	No Inf.	Total
2016	85	0	6	117,78%
2017	145	5	9	208,76%
2018	90	1	7	131,75%

Data for 2017-18
CS & DS residential students from India

Total Number Students	369
Total Number With Jobs	252
Percentage Employed	68%
Average Annual Earnings	$5,635

Top Employers	# Students	Av Pay
SICE	135	$ 4,654
RPS Dining Services	104	$ 978
IMU Dining	44	$ 1,867
IU Auditorium	36	$ 382
University IT (UITS)	33	$ 6,788
Business School	18	$ 4,950

Research Funded Jobs	49	$ 4,715

Average # Jobs/Student	1.6

SCHOOL OF
INFORMATICS, COMPUTING, AND ENGINEERING

DATA SCIENCE (RESIDENTAL), MS
2016–2017

FULL-TIME SPOTLIGHT

The following reflects information on 68 DS (residental) master's graduates who were seeking employment or continuing education. 56% of graduates directly reported their status. Total knowledge rate is 92%.

93%
secured employment
or continuing education within six months of graduation
86% accepted employment.
7% committed to further education.

$83,800
average full-time starting salary
based on 28 reported salaries.

$6,800
average signing bonus and/or relocation allowance
based on 13 reported bonuses.

Top Hiring Companies

Innovizant · American Institutes for Research · IBM · bmw · TrueScripts

Most Common Destinations

CA (21%) · NY (11%) · IN (9%) · NJ (8%) · IL (6%) · WI (6%)

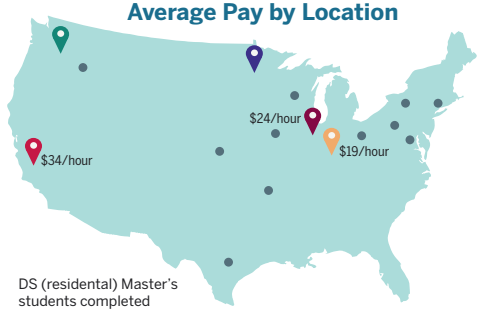
Average Salary by Location

DS (residental) graduates accepted full-time positions in 20 states plus Washington D.C. and China.

INTERNSHIP SPOTLIGHT

The following reflects student-reported information from 53 DS (residental) master's students who completed an internship in fall 2016, spring 2017 or summer 2017.

Average Pay by Location



DS (residental) Master's students completed internships in 15 states plus Washington D.C. and India.

Top Hiring Companies

amazon · LexisNexis · MatrixCare · Megaputer · regalix

$28
average hourly pay
for internships
based on 20 reported salaries

Most Common Destinations

CA (21%) · IN (11%) · IL (9%) · MN (6%) · WA (8%)

SCHOOL-WIDE YEAR IN REVIEW

161
companies recruited on-campus
through career fairs, on-campus interviews, HCI/d Connect, information sessions, tech talks, employer panels, and student organization events

650+
companies hired
full-time and/or interns

1,369
interviews
were conducted on-campus

1,040
total graduates with
543 bachelor's degrees
467 master's degrees
30 Ph.D. degrees

COMPANIES THAT HIRED GRADUATES: FULL TIME

12 West Capital
98point6 Inc
Absolutdata Analytics
Aetna Inc
Akuna Capital
American Institutes for Research
Arthra Solutions
Axtria-Ingenious Insights
Barclays
BDIPlus
Bloom Insurance Agency
BMK Solutions LLC
CiBO Technologies
Cummins Inc
Deloitte
Discover Financial Services
Elevate
Elutions
Footlocker.com/Eastbay
Ford Motor Company
Funding Circle US
GoPro
Health4TheWorld
Homeaway
IBM
IMVU
Indiana University
Industrial and Commercial Bank of China, New York
Innovizant
Institute for Molecular Engineering
Intel Corporation
Legislative Services Agency
Micron Technology
Microsoft Corporation
NTT Data Services
OpenMail
PricewaterhouseCoopers
Rare Genomics Institute
Reliance First Capital LLC
Return Path
RightStrat
Scientific Games
Sentry
Sivisoft
Synechron
System Technology Group
The Honest Company
Truescripts
United Educators
University of California, Irvine
Wayfair
Xometry
Yahoo!

ACCELERATORS

The School of Informatics, Computing, and Engineering's Accelerator Corporate Giving Program is a relationship-enhancing investment opportunity that accelerates a company's ability to address their specific, strategic needs. Scholarship dollars generated from Accelerator help to recruit, retain, support, and graduate future tech industry leaders. For more information on strategically investing with the Accelerator Program, contact Gina Gallagher, Senior Director of Corporate and Foundation Relations, at ggallagh@indiana.edu or 812-856-1847.

Grant Thornton
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Kohl's
accenture High performance. Delivered.
Appirio
Crowe Horwath
EY Building a better working world
GE
Genesys
Kronos
Liberty Mutual Insurance
Target

Notes

The Hiring and Post-Graduation Plans Survey and the Internship Survey are annually administered by the School of Informatics, Computing, and Engineering. In the months leading up to and following the end of the academic year, students are contacted by email and phone and asked to complete the online survey(s) that apply to them. LinkedIn and Facebook profiles of graduates as well as employer reported hires were used to contribute to total knowledge rates.

Infographic based on original design by Malena Zook, 2013 Informatics graduate.

School of Informatics, Computing, and Engineering
Career Services
700 North Woodlawn Avenue, Bloomington IN 47408

812-856-6016

sice.indiana.edu/career

Follow iusice!

Why SICE?

- Broad and multidimensional education

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- Broad and multidimensional education
- Diversity and Inclusion

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- Entrepreneurship and Innovation

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- Broad and multidimensional education
- Diversity and Inclusion
- Entrepreneurship and Innovation
- Innovation in education, staying relevant and current

Important Dates

- April 15, 2019: Decision deadline
- August 12, 2019: Arrival in US deadline
- August 26, 2019: Classes begin

Thank You!

ehaghver@indiana.edu

CS Research Areas

- Formal methods for system design, hardware, and robotics
- Foundations: Theory of computing, algorithms, and applied logic
- High-performance computing
- Cybersecurity
- Graphics and visualization
- Programming languages and compilers
- Artificial intelligence and cognitive science
- Distributed and parallel systems
- Database and information systems
- Computer networks and security
- Security informatics
- Bioinformatics

INFO Research Areas

- Complex networks and systems
- Health informatics
- Human-computer interaction design
- Intelligent and interactive systems
- Music informatics
- Social informatics

ISE Research Areas

- Bioengineering
- Computer Engineering
- Cyber-physical Systems
- Environmental Engineering
- Molecular and Nanoscale Engineering
- Neuroengineering

Research Centers

- Center for Applied Cybersecurity Research, 5 affiliated faculty
- Center for Bioinformatics Research, 6 affiliated faculty
- Center for Complex Networks and Systems Research, 13 affiliated faculty
- Center for Data and Search Informatics, 10 affiliated faculty
- Center for Research in Extreme Scale Technologies, 5 affiliated faculty
- Center for Research On Mediated Interaction (CROMI)
- Center for Security Informatics, 7 affiliated faculty

- Cyberinfrastructure for Network Science (CNS) Center, 1 affiliated faculty
- Data to Insight Center, 1 affiliated faculty
- Digital Science Center, 3 affiliated faculty
- Indiana University Network Science Institute, 3 affiliated faculty
- Rob Kling Center for Social Informatics, 8 affiliated faculty
- Web Science Center

Weather

Climate data for Bloomington, Indiana [hide]													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °F (°C)	78 (26)	76 (24)	86 (30)	91 (33)	97 (36)	103 (39)	110 (43)	104 (40)	103 (39)	96 (36)	84 (29)	74 (23)	110 (43)
Average high °F (°C)	38.8 (3.8)	42.3 (5.7)	53.0 (11.7)	65.0 (18.3)	75.1 (23.9)	83.2 (28.4)	87.3 (30.7)	85.9 (29.9)	79.7 (26.5)	68.4 (20.2)	53.9 (12.2)	41.6 (5.3)	64.5 (18.1)
Average low °F (°C)	21.2 (−6.0)	23.2 (−4.9)	32.1 (0.1)	42.6 (5.9)	52.5 (11.4)	61.4 (16.3)	65.2 (18.4)	63.4 (17.4)	56.3 (13.5)	44.8 (7.1)	34.7 (1.5)	24.6 (−4.1)	43.5 (6.4)
Record low °F (°C)	−21 (−29)	−20 (−29)	−2 (−19)	17 (−8)	29 (−2)	36 (2)	46 (8)	41 (5)	26 (−3)	17 (−8)	−2 (−19)	−20 (−29)	−21 (−29)
Average precipitation inches (mm)	2.66 (68)	2.71 (69)	3.66 (93)	4.29 (109)	5.12 (130)	4.07 (103)	4.32 (110)	3.99 (101)	3.62 (92)	3.14 (80)	3.95 (100)	3.38 (86)	44.91 (1,141)
Average snowfall inches (cm)	5.7 (14)	4.4 (11)	2.1 (5.3)	0.4 (1.0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.1 (0.25)	1.2 (3.0)	4.7 (12)	18.6 (47)