Computer Science (CS) and Information Technology (IT) Programs

Department of Computer Science
William Paterson University

Supported by NSF Grant # 2527737.

Department of Computer Science (Hennings Science Hall East)



Supported by NSF Grant # 2527737.

Presentation Overview



- CS program is accredited by ABET (Accreditation Board for Engineering & Technology)
- CS and IT curriculum conforms to ABET & ACM/IEEE national standards
- Small class size with direct faculty attention
- Computing facilities and research labs: state-of-the-art and fully networked computing systems
- Undergraduate research opportunities
- Internship opportunities
- MaCS Scholars program
- Student clubs
- Faculty profiles

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CS and IT Degrees

- **CS Major**
  - Focus on the science, math, and engineering of computers and associated technologies (Synthesis & Analysis)
- **IT Major**
  - Focus on computers, networking, security, and associated technologies (Deployment & Application)

- **CS Minor** (23 – 24 credits)
- **IT Minor** (19 – 21 credits)

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Curriculum: CS and IT Degree Requirements

- **Prepare students for a professional career or graduate study**
- **Computer Science**
  - https://academiccatalog.wpunj.edu/preview_program.php?catoid=46&poid=13335&returnto=2214
- **Information Technology**
  - https://academiccatalog.wpunj.edu/preview_program.php?catoid=46&poid=13334&returnto=2214

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Small Class Size

- Emphasis on faculty-student interactions
- Most classes are capped at 27 (with lab computers) or 30 (maximum)
- Upper-level classes average around 15 students
- Almost all major classes are taught by full-time faculty; a few major classes are taught by adjuncts with expertise in the specific topic

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Computing facilities

- Three classroom labs, Cisco Networking Lab, one open lab, and a Computer Science Research Center
- Three teaching computer labs in Atrium and many other computer labs on campus (e.g., Math Dept., Cheng Library) for general access
- Department owns and operates several Dell PowerEdge servers as virtual machine server hosted various operating systems (e.g., Ubuntu, Windows, Kali Linux), database (MySQL) server, as well as web server
- Lab computers are replaced every 3 years
- Extensive variety of software, IDE's, compilers, VM's...
- Fully networked (wired and wireless) environment

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Research Labs

- **Cybersecurity Research Lab (CRL)**
  - **Coordinator**: Dr. Kiho Lim
  - **Website:** https://www.wpunj.edu/cosh/departments/computer-science/Research/cybersecurity-research-lab
- **Data Science Research Lab (DSRL)**
  - **Coordinator**: Dr. Cyril S. Ku
  - **Website:** https://www.wpunj.edu/cosh/departments/computer-science/Research/Data-Science-Research-Lab/
- **ACBOS Virtual Research Lab**
  - **Coordinators**: Dr. Ali Saghiri
  - **Website:** https://www.wpunj.edu/cosh/departments/computer-science/faculty/saghiri/

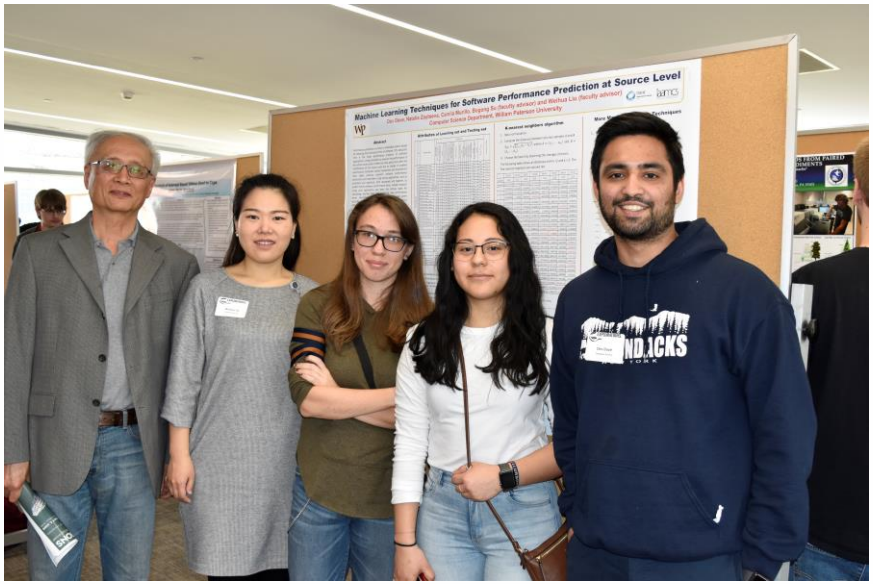
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Faculty-Student Research

- **Many students involved in research with faculty members**
  - CfR (Center for Research) and Student Worker/Research Funds in the College of Science & Health
  - External grants from NSF (e.g., the MaCS Scholars program)
  - Independent Study, Honors College thesis, etc.
- **Students presented their research papers/posters with professors at conferences; recent examples:**
  - Explorations at WPU
  - IEEE Ubiquitous Computing, Electronics & Mobile Communication Conference
  - Annual Meeting of the Eastern Psychological Association
  - Sigma Xi Annual Conference at St. Joseph University

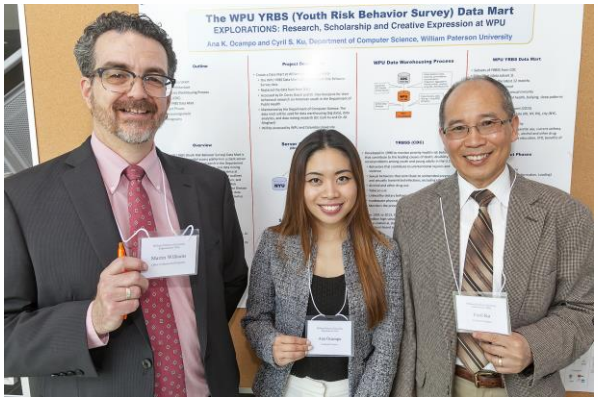
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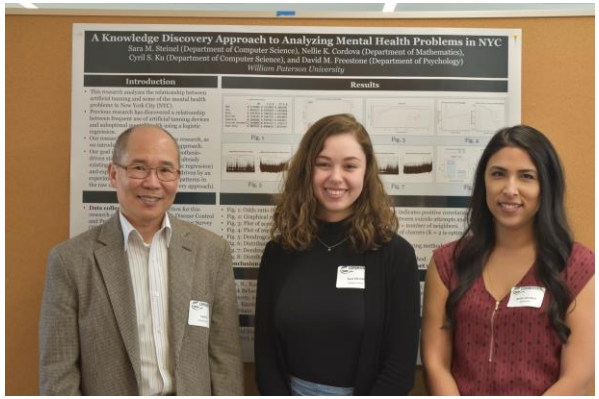
Student Research Presentations











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Internship / Tutor Opportunities

- Many CS and IT majors work part-time with the Instruction and Research Technology (IRT) as Technology Assistants
- Our department offers lab assistant positions to manage and administer our servers
- Students with excellent academic records and strong communication skills are hired as tutors
- Students who perform academically relevant internships can get course credits through CS 3950 (for IT majors) or CS 4950 (for CS majors)

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MaCS (Math & Computer Science) Scholars Program

- A six-year $2 million S-STEM grant from NSF (National Science Foundation)
- **Director and Co-Director for Math:**
  - Dr. Jyoti Champanerkar and Dr. Paul von Dohlen
- **Co-Directors for CS and IT:**
  - Dr. Cyril S. Ku and Dr. Nan Wang
- Supporting low-income and academically talented Math, CS, and IT students with scholarships and research opportunity
- Improve retention and graduation rates
- Program information: https://www.wpunj.edu/cosh/macs-scholars-program/

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Student Population and Organizations

- **Student population (Fall 2026):**
  - **CS Major**: 148; **Minor**: 6
  - **IT Major**: 84; **Minor**: 6
  - **IT-Cybersecurity Major**: 47
  - **IT WP Online**: 69
  - **IT-Cybersecurity WP Online**: 108

- The Computer Science Society of SGA (Dr. Nan Wang)
- The Networking Club (Dr. Kiho Lim)
- UPE National Honor Society (chartered in May 1988)

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Full-Time Faculty

- **Abdelrahman Elleithy**, Ph.D., University of Bridgeport
- **Bohan Fan**, Ph.D., University of Illinois at Chicago
- **Navid M. Imran**, Ph.D., University of Memphis
- **Cyril S. Ku**, Ph.D., Northwestern University
- **Kiho Lim**, Ph.D., University of Kentucky
- **John P. Najarian**, Ph.D., City University of New York
- **Ali M. Saghiri**, Ph.D., Amirkabir University of Technology, Iran
- **Luay Wahsheh**, Ph.D., University of Idaho
- **Nan Wang**, Ph.D., Mississippi State University
- **All faculty:** https://www.wpunj.edu/cosh/departments/computer-science/faculty-staff

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Summary

- Affordable education
- Quality programs
- Stimulating learning environment
- Caring faculty members
- Many levels of support systems to help you succeed
- Excellent career opportunities:
  - https://careers.usnews.com/best-jobs/articles/the-best-jobs-in-america

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More Information?

- **For more information**:
  - Call the CS Department at (973) 720-2649
  - E-mail the Interim Department Chair, Dr. Cyril S. Ku, at KuC@wpunj.edu
- **Visit Computer Science website**:
  - https://wpunj.edu/cs

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