



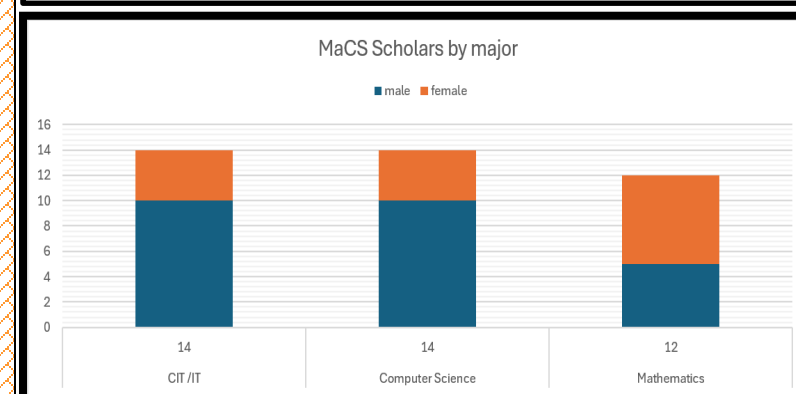
MACS SCHOLARS PROGRAM

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WILLIAM PATERSON UNIVERSITY OF NEW JERSEY

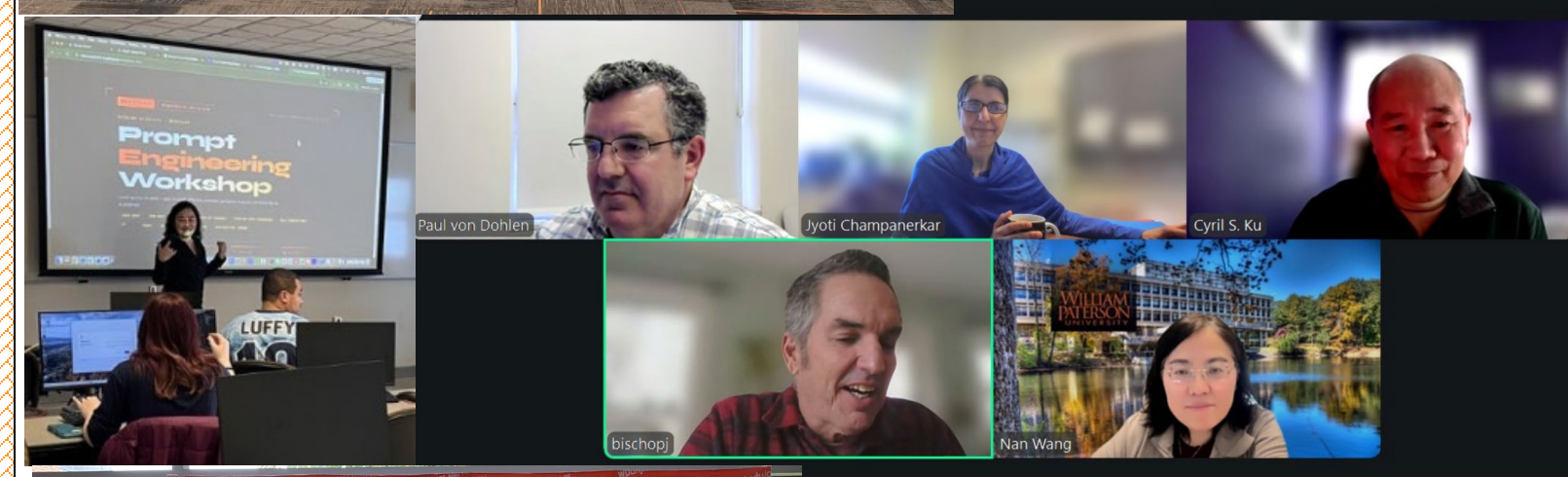
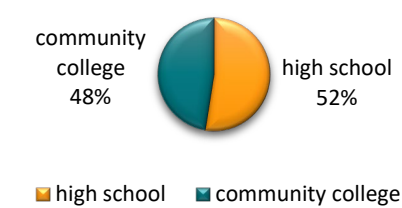


OBJECTIVES

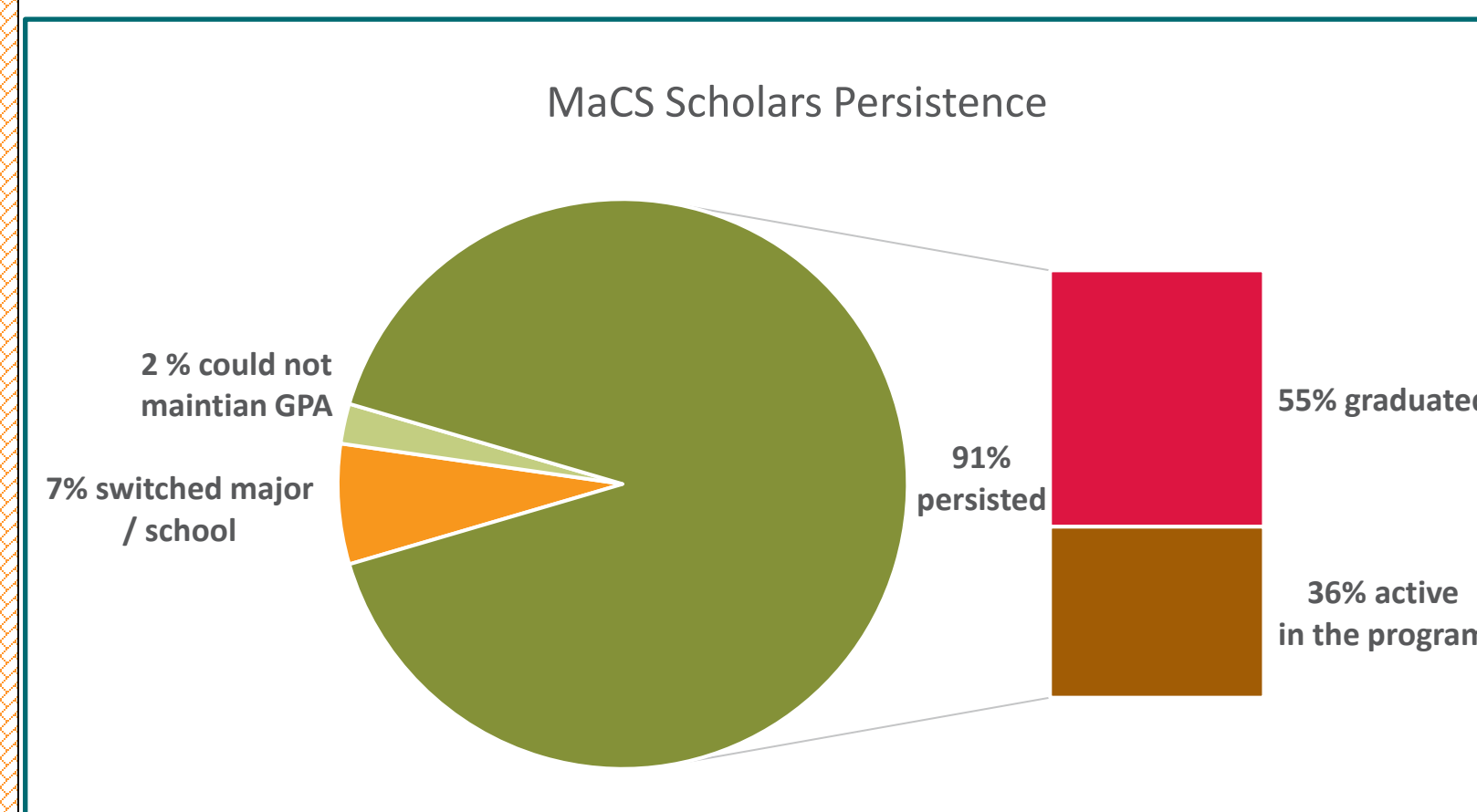
- Enroll low-income, academically talented students as WPU's Mathematics and Computer Science (MaCS) scholars and support them with scholarships, summer research and presentation opportunities, & culturally responsive mentoring.
- Improve year over year retention rates for MaCS scholars.
- Improve graduation rates for all MaCS scholars
- Perform a research study investigating relationship between college retention for low-income students and strength based, culturally responsive mentoring.



Admission Pathway: High School vs. Transfer



STUDENT ENGAGEMENT



RESEARCH

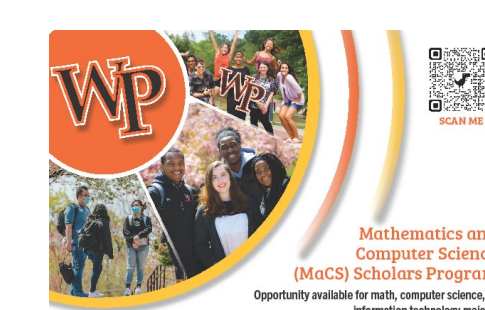
Faculty-mentored research
Conference presentations
Publications
Internships

CAREER & PROFESSIONAL DEVELOPMENT

AI & Prompt Engineering Workshops
Robotics Workshops
Hackathons
Career Panels
Women In Technology Events
Industry & Museum Fieldtrips (Mercer Labs, Spyscape)
Networking Opportunity

CULTURALLY RESPONSIVE MENTORING & COMMUNITY BUILDING

In-person and Online Meetings
Information Sessions
Summer Book Reading
Summer Research Presentations



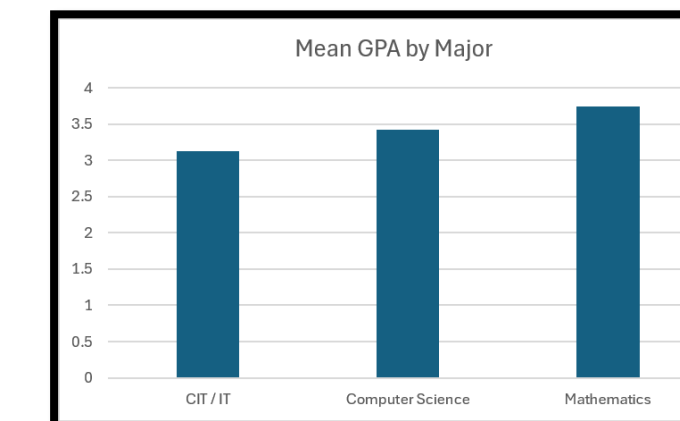
Culturally Responsive Mentoring
And Persistence
MaCS Scholars Program at WPU

Methodology

Research Question	CRM Elements	Fidelity of Implementation	Correlation with Student Persistence
To what level does mentoring activities correlate to student persistence, graduation, and STEM-related employment or graduate work?	Helps students make connections between their community, national, and global identities Proliferates a sense of efficacy Acknowledges the impact of systemic oppression, marginalization, and inequality	Mentor training Student surveys Mentor training Mentor surveys Student surveys Mentor training Mentor surveys Student surveys	PITS Survey - (Science Identity Section) College Student Mentoring Scale (Questions 6, 7, 14, 17) Cultural Responsiveness Assessment (CRA, 17) PITS Survey - (Self Efficacy section) Cultural Responsiveness Assessment (CRA, 14) College Student Mentoring Scale (Questions 15, 24)

PROGRAM HIGHLIGHTS

147 scholarships awarded
44 unduplicated scholars
24 scholars graduated
3.411 Average GPA
9 papers published



Information

MDPI Information

MDPI

Automating Systematic Reviews in Clinical Psychiatry: Comparing Domain Experts and NLP-Based Text Mining
Cyril S. Ku^{1,*}, Daniel Weiner², Maura Wells³, Andrew Huang⁴ and Morgan R. Peltier⁵

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Validating the Use of Natural Language Processing and Text Mining for Hospital-Based Violence Intervention Programs and Criminal Justice Articles
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Self-Evolving Programs: A Novel Approach Leveraging LLMs and Quine Programs

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A Modular and Model-Agnostic LLM Framework for PHP Webshell Detection

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Humanoid Robots 2026: A Comprehensive Review of Technical Foundations, Market Dynamics, and Research Challenges
Nan Wang, Al-Mohamed Saghri, and Robin Fan

Synthetic Data Generation for Cybersecurity Applications: An Exploratory Study of GAN Models

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Human Dignity and the Ethics of Artificial Intelligence: A Framework for Responsible Design and Use from the Perspective of Catholic Social Teaching

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Electronic Journal of Graph Theory and Applications 11 (1) (2023), 165–181

Electronic Journal of Graph Theory and Applications

Examining Platform Strategy for Influencer Marketing Using Text Mining

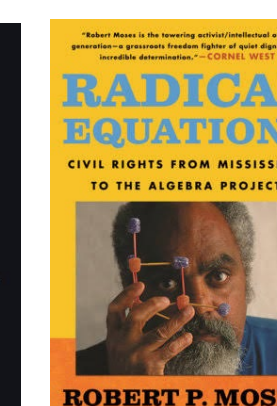
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Interlace polynomials of $4n$ -snowflake graphs

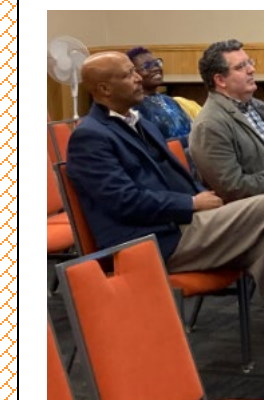
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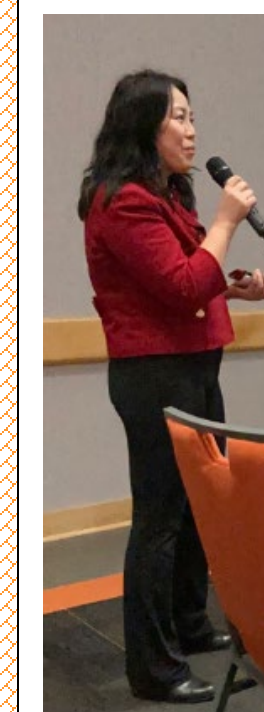


Takes a village...

Admissions Office
Dean's Office
Financial Aid Office
Marketing
Faculty Members
Mentors
Collaborators
Administrative Assistants



External Evaluator – Dr. P. Bischoff



BROADER IMPACT

Strengthens partnership with local schools

Expands Access to STEM Education
Strengthens STEM workforce
Workshops available to non-MaCS scholars
Conference Opportunities
Networking Opportunities

Culturally Responsive Professional Development
and Discussions for Faculty at-large

Increased Interdisciplinary Collaborations

FUTURE DIRECTION

- Networking with Industry Partners
- Career Readiness workshops for MaCS Scholars
- Cohort Classes

MaCS Scholars Program, Phase II: AY 2026-32 (NSF#2527737)

This work is supported by the National Science Foundation, through the S-STEM program under the NSF Grant # 2028011.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.