

MACS SCHOLARS PROGRAM: SUPPORTING STEM STUDENT SUCCESS THROUGH SCHOLARSHIPS, MENTORING, AND COMMUNITY

<https://wpunj.edu/cosh/mac-scholars-program/>



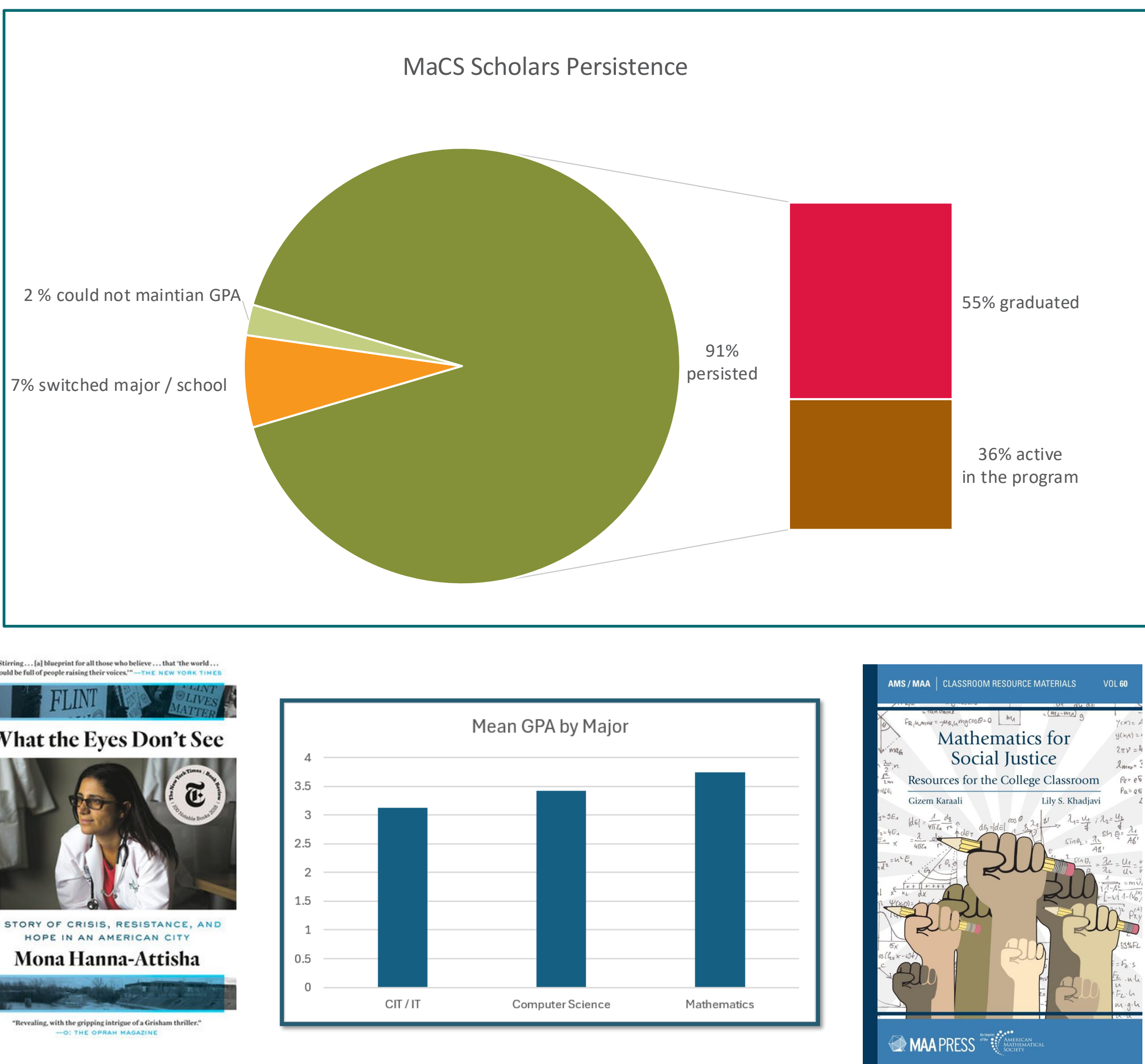
WILLIAM PATERSON UNIVERSITY OF NEW JERSEY

N. WANG*, P. VON DOHLEN, C.S. KU, J. CHAMPANERKAR, D. HILL, V. SHARMA



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.



PROGRAM HIGHLIGHTS

- 147 scholarships awarded
- 44 unduplicated scholars
- 24 scholars graduated
- 3.411 Average GPA

- Faculty-mentored undergraduate research
- Student presentations at regional and national conferences
- Student awards and internships
- Student Research
- Culturally responsive mentoring and cohort activities
- Workshops
- Field trips

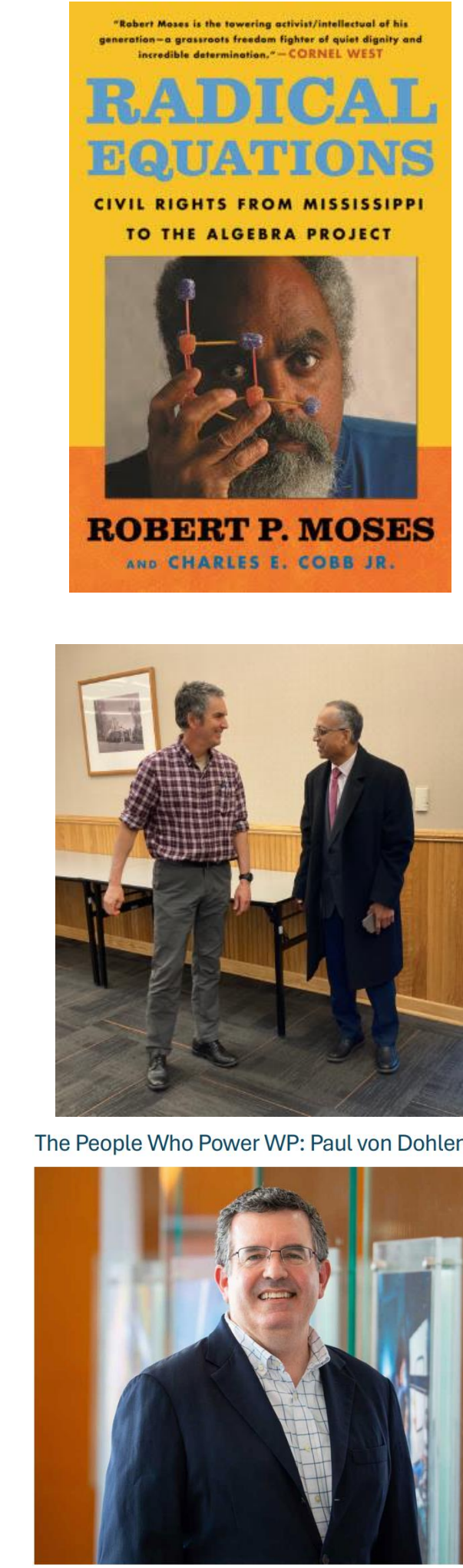


SUPPORT

- Scholarship Award
- Field Trips
- Skill-Building Workshops
- Research Activities
- Internship Opportunities
- Networking Opportunities
- Academic Tutoring
- Culturally Responsive Mentoring

STUDENT ENGAGEMENT

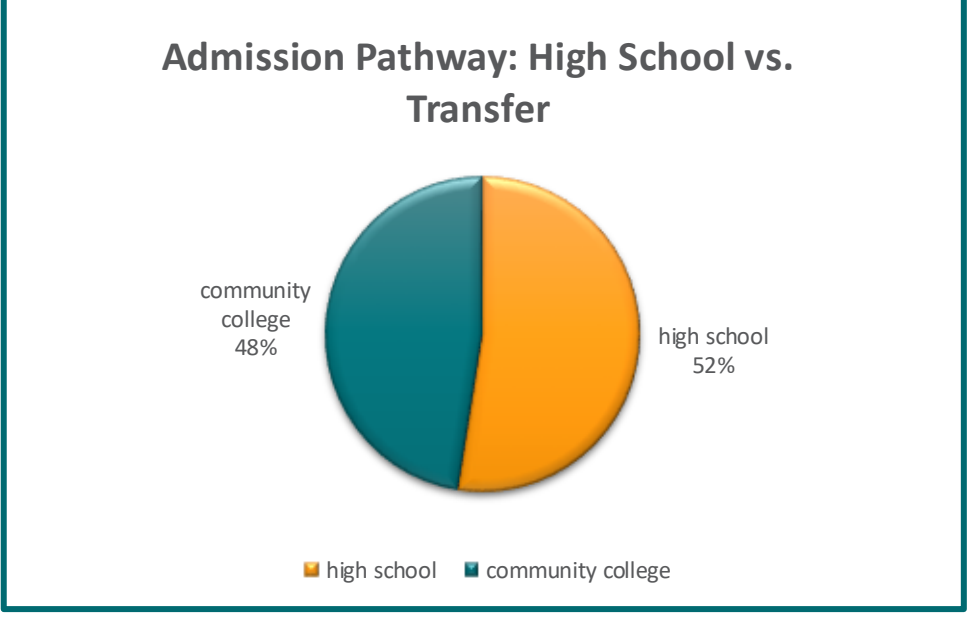
- RESEARCH**
 - Faculty-mentored research
 - Conference presentations
 - Publications
 - Internships
- CAREER & PROFESSIONAL DEVELOPMENT**
 - AI & Prompt Engineering Workshops
 - Robotics Workshops
 - Hackathons
 - Career Panels
 - Women In Technology Events
 - Industry & Museum Fieldtrips (Mercer Labs, Spyscape)
 - Networking Opportunity
- MENTORING & COMMUNITY BUILDING**
 - In-person and Online Meetings
 - Information Sessions
 - Summer Book Reading
 - Summer Research Presentations



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

Admission Pathway: High School vs. Transfer

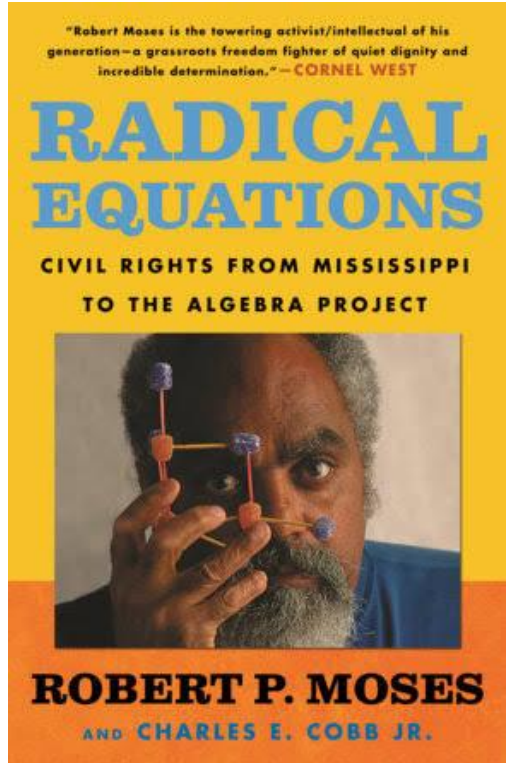


Pathway	Percentage
High school	52%
Community college	48%

More than a Glitch



RADICAL EQUATIONS



TAKES A VILLAGE...

- Admissions Office
- Dean's Office
- Financial Aid Office
- Marketing
- Faculty Members
- Mentors
- Collaborators
- Administrative Assistants
- External Evaluator – Dr. P. Bischoff

Automating Systematic Reviews in Clinical Psychiatry: Comparing Domain Experts and NLP-Based Text Mining

Cyrl S. Ku^{1,*}, Daniel Weiner², Meera Wirth³, Andrew Huang⁴ and Morgan R. Pelletier¹

¹ Department of Computer Science, William Paterson University, 800 Thompson Road, Wayne, NJ 07470, USA
² Dickinson Middle School of Medicine, Jersey Shore University Hospital, 123 Main Street, Neptune, NJ 07753, USA
³ Meera Wirth is a student at Dickinson Middle School of Medicine, Jersey Shore University Hospital, 123 Main Street, Neptune, NJ 07753, USA
⁴ Andrew Huang is a student at Dickinson Middle School of Medicine, Jersey Shore University Hospital, 123 Main Street, Neptune, NJ 07753, USA

Validating the Use of Natural Language Processing and Text Mining for Hospital-Based Violence Intervention Programs and Criminal Justice Articles

Cyrl S. Ku^{1,*}, Katherine Pagnier², Janet R. Dauter³, Morgan R. Pelletier¹, Robert Green⁴ and Sherrell Rappaport¹

¹ Department of Computer Science, William Paterson University, 800 Thompson Road, Wayne, NJ 07470, USA
² Department of Computer Science, William Paterson University, 800 Thompson Road, Wayne, NJ 07470, USA
³ Department of Computer Science, William Paterson University, 800 Thompson Road, Wayne, NJ 07470, USA
⁴ Department of Computer Science, William Paterson University, 800 Thompson Road, Wayne, NJ 07470, USA

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

Ricky B. Stein¹, Kibo Lim², Cyrl S. Ku³

¹ Department of Computer Science, William Paterson University, 800 Thompson Road, Wayne, NJ 07470, USA
² Department of Computer Science, William Paterson University, 800 Thompson Road, Wayne, NJ 07470, USA
³ Department of Computer Science, William Paterson University, 800 Thompson Road, Wayne, NJ 07470, USA

Examining Platform Strategy for Influencer Marketing Using Text Mining

Jia A. Chai¹, Cyrl S. Ku^{2,*}

¹ School of Communication and Media, Monclair State University, Montclair, NJ, USA
² Department of Computer Science, William Paterson University, Wayne, NJ, USA

Self-Evolving Programs: A Novel Approach Leveraging LLMs and Quine Programs

Ali Mohammad Niglat¹, Nao Wang²

¹ Department of Computer Science, William Paterson University, Wayne, NJ, USA
² Department of Computer Science, William Paterson University, Wayne, NJ, USA

Humanoid Robots 2026: A Comprehensive Review of Technical Foundations, Market Dynamics, and Research Challenges

Nao Wang, Ali Mohammad Niglat, and Botan Fan

2026 IEEE 12th International Conference on Intelligent Data and Security (IDS)

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

Bibek Neupane¹, Cyrl S. Ku^{2,*}, Kibo Lim³

¹ Department of Computer Science, William Paterson University, Wayne, NJ, USA
² Department of Computer Science, William Paterson University, Wayne, NJ, USA
³ Department of Computer Science, William Paterson University, Wayne, NJ, USA

Interlace polynomials of 4n-snowflake graphs

Jyoti Champarker¹, Aihua Li²

¹ Department of Mathematical Sciences, William Paterson University, New Jersey, USA
² Aihua Li, Department of Mathematics, Monclair State University, New Jersey, USA

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

Joseph R. Lacey¹, Vanessa D. Keros², Cyrl S. Ku³, Thomas J. Meloy⁴

¹ Department of Computer Science, William Paterson University, Wayne, NJ, USA
² Department of Computer Science, William Paterson University, Wayne, NJ, USA
³ Department of Computer Science, William Paterson University, Wayne, NJ, USA
⁴ Department of Computer Science, William Paterson University, Wayne, NJ, USA

FUTURE DIRECTION

- Partner with local STEM schools and Community Colleges
- Skill-building workshops for MaCS Scholars
- Networking with Industry Partners
- MaCS Scholars Program Phase II (NSF#2527737)

Partner Schools:

Bergen Community College	Passaic County Community College	Paterson Public Schools – School of Information Technology
Manchester Regional High School	Passaic County Technical – Vocational Schools	Paterson Public Schools – JFK Educational Complex The School of STEM
	Paterson Charter School for Science & Technology	



*Presenter:
Nan Wang (co-PI)
Department of Computer Sciences
William Paterson University,
Wayne, NJ

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