Mackenzie E.J. Perry

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RELEVANT EXPERIENCE

North Carolina State University, College of Engineering Raleigh, NC

Postdoctoral Research Scholar* | *Department of Materials Science and Engineering – Hybrid Oct. 2025 – Present

- Lead hands-on bootcamps and develop curriculum for Metallurgical Engineering Trades Apprenticeships & Learning Hub
- Coordinate industry-aligned workforce development programs for advanced manufacturing and microelectronics
- Strengthen strategic partnerships with defense stakeholders via collaborative research, proposals, and program leadership

Naval Surface Warfare Center (NSWC) Carderock Division West Bethesda, MD

Workforce Development Coordinator* | *Platform Integrity Department 60 – Hybrid to Remote Jan. 2024 – Sept. 2025

- Selected by Deputy Department Head and Chief Engineer for newly created role; awarded 3 spot bonuses for leadership
- Directed teams to coordinate 4 major workforce initiatives serving 136 Department employees; outcomes include:
  - Designed and executed 4 fleet engagement trips, enabling 17 employees to see their work in a shipboard context
  - Facilitated 4 resume critique and mock interview events; over 30% of participants advanced to desired leadership roles
  - Delivered OPM 360 Leadership Assessments for 31 employees, supporting leadership development and future training
  - Led 23 volunteers to engage 220 children via lab tours and hands-on demos designed for Take a Child to Work Day
- Led climate survey analysis using LLM tools with data science partners; created summary dashboard to inform leadership
- Managed 2 departmental employee award cycles including process design and nomination review with leadership
- Created resume matching system for 6,000+ student fellowship candidates to identify 200 relevant applications
- Analyzed program feedback and determined best practices; presented recommendations to Department leadership

Materials Engineer* | *Welding, Processing, and Nondestructive Evaluation Branch 611 – Hybrid Sept. 2021 – Dec. 2023

- Promoted to full performance level (ND-04) within 2 years; awarded 5 spot bonuses for exceptional teamwork and service
- Served as U.S. Navy's subject matter expert for solid state additive processes across DoD at 15 conferences and meetings
- Improved cross-governmental collaboration on emerging additive processes by establishing and leading biannual meetings
- Planned and executed 7 projects as lead technical advisor by managing stakeholders, budgets ($500k+ per year), and scopes
- Presented program deliverables to sponsors via reports and 6 in-person meetings across sites to maintain alignment
- Co-developed and briefed Carderock leadership on actionable plan to increase workforce morale and decrease burnout
- Shadowed Capital Tech Bridge Director to gain exposure to federal innovation strategy and interagency collaboration
- Coordinated knowledge transfer event for retiring team member by distilling 20+ years of research concepts into summary
- Completed 3 Simplified Acquisition Packages to expand lab test capabilities and support branch research growth

U.S. Army Combat Capabilities DEVCOM Army Research Laboratory Aberdeen Proving Ground, MD

Guest Researcher as National Science Foundation Graduate Research Fellow – Hybrid Aug. 2018 – Aug. 2021

- Discovered fundamental insights into severe plastic deformation mechanisms during solid-state metal 3D printing process
- Collaborated with Army researchers to leverage specialized equipment and institutional knowledge

Virginia Tech, College of Engineering | Department of Materials Science and Engineering Blacksburg, VA

Graduate Research Assistant for Prof. Hang Z. Yu – On-site May 2017 – Aug. 2018

- Conducted independent research on TWIP steel and AFSD processes through advanced testing, modeling, and microscopy

Graduate Teaching Assistant* / *Teaching Assistant – On-site Aug. 2016 – May 2018

- Supported instruction across 5 undergraduate courses ranging from introductory to senior level for 4 faculty members

EDUCATION

Virginia Tech, College of Engineering Blacksburg, VA

Ph.D. in Materials Science and Engineering Aug. 2021

- National Science Foundation Graduate Research Fellowship Program (NSF GRFP) Fellow GPA: **4.00**
- Dissertation: "Material Flow and Microstructure Evolution during Additive Friction Stir Deposition of Aluminum Alloys"
- Published 7+ papers (2 as first-author) resulting in Acta Student Award; presented at 9 conferences (including 2 posters)

B.S. in Materials Science and Engineering, Summa cum Laude, in Honors* | *Minor: Green Engineering May 2017

- Honors Senior Thesis: "Strain Mapping of Architectured Materials" GPA: **3.90**
- Summer research assistantships with Prof. John R. Scully at U.Va. Center for Electrochemical Science and Engineering