

Carson Minor

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[LinkedIn](#)

SUMMARY

Nanotechnology driven student with research and leadership experience. Significant materials analysis skills. Projects extend outside of employment and school. Curious and goal-oriented personality.

EDUCATION

Materials Science and Engineering, B.S., University of Utah

Graduating May 2025, Cumulative GPA: 3.419

Relevant Coursework

Study of Molten Salt CNT Synthesis – Advised by Prof. Michael Simpson

Nanostructured Materials

Molten Salts

Materials Innovation

Awards and Scholarships

Western Undergraduate Exchange Scholarship

Alumni Legacy Scholarship

Kenneth Kobayashi Memorial Scholarship

Undergraduate Research Opportunities Program Award Recipient

Ivan B. Cutler Endowed Scholarship

AIST Northern Pacific Member Scholarship

Dean's List Fall 2021 & 2023

RESEARCH

Experience

Associate Lab Manager, Research Assistant

Nanostructured Materials Research Laboratory, University of Utah

September 2021-January 2025

NMRL is a research lab at the University of Utah that focuses on the development on novel nanomaterial synthesis methods and applications of nanomaterials. I began as a Research Assistant in my freshman year and earned the position of Associate Lab Manager in January of 2024.

- Pioneered the development of a novel process for synthesizing high-quality copper-graphene wire, progressing from initial exploratory research to consistent production of high-performance samples. This involved iterative refinement of synthesis techniques including material mixing, annealing, rolling and pulling methods, achieving scalable and repeatable results.
- Directed a team of researchers for a DOE-funded project, organizing synthesis, processing, and analysis of advanced materials.
- Trained project researchers in advanced synthesis techniques, improving team productivity and technical proficiency.
- Coordinated with DOE and DARPA by preparing detailed presentations and quarterly reports, maintaining strong partnerships with funding agencies.
- Co-invented a novel nuclear materials synthesis technique with a patent pending.
- Co-authored research paper on the development of a novel synthesis technique of Barium Stannate microcrystals (<https://doi.org/10.1016/j.matchemphys.2022.127042>).
- Prepared and presented research at GCURS at Rice University (November 2024) and TMS (March 2025).
- Designed and programmed Arduino robotics for cyclic heating processes, enhancing experimental precision and efficiency.
- Ensured compliance with safety standards while conducting solid-state, molten salt, sol-gel, and PLD thin-film synthesis.
- Analyzed materials using SEM, EDS, XRD, UV-Vis, and Instron techniques, generating actionable insights to advance research.
- Paid employee for over 1200 hours of research.

Publications

- G. Mishra, C. Minor, and A. Tiwari, “High throughput synthesis of BaSnO₃ microcrystals by molten salt technique,” *Materials Chemistry and Physics*, vol. 295, pp. 127042–127042, Feb. 2023, doi: <https://doi.org/10.1016/j.matchemphys.2022.127042>.
- A. Tiwari, C. Minor, and G. Mishra, (2024). Precision Fabrication of Advanced Nuclear Fuel Particles. US Patent Application No. 63/656,534, filed June 5, 2024.

Presentations

- C. Minor, G. Mishra, and A. Tiwari, “Synthesis of High-Entropy, Water-Soluble Ceramics for Use as Sacrificial Templates in Growth of Freestanding Thin Films,” presented by C. Minor in the Applied Physics section of the Gulf Coast Undergraduate Research Symposium (GCURS), Rice University, Houston, Texas, Nov. 9, 2024.

Interests

Carbon nanotube alignment, electrophoretic CNT alignment, CNT fiber synthesis, CNT wire applications, CNT synthesis, molten salts, conductive and superconductive materials

VOLUNTEER EXPERIENCE

Chair, Vice Chair

Material Advantage Student Chapter, University of Utah

August 2022-June 2024

MA is a club with the goal of helping materials science students in their professional development. This is facilitated in part through involvement with organizations including ACerS, AIST, ASM International, and TMS.

- Boosted chapter membership by 200% in the first semester as Chair through targeted outreach and engagement.
- Established a financial partnership with Northrop Grumman, securing sponsorship to support chapter activities.
- Organized monthly professional development workshops, industry tours, and social events to enhance member experience.
- Led a team of officers, delegating tasks and maintaining a robust calendar of events and activities.

WORK EXPERIENCE

Engineering Clerk

Coreslab Structures, Perris, CA

February 2021-August 2021

- Designed precast concrete components for the SDSU Aztec Stadium project using Revit, ensuring compliance with engineering specifications.
- Improved organization and efficiency of engineering processes, streamlining design workflows and document management.
- Collaborated with engineers and draftsmen to ensure design accuracy, enhancing project deliverables.

Assistant, Shop Organizer

Bodyworks Collision Center, Murrieta, CA

June 2019-February 2021

- Constructed equipment to improve shop organization/functionality.
- Organized technician and painter work areas.
- Practiced and enforced safety procedures.
- Improved efficiency of the detailing process.
- Painted walls of several thousand square feet of warehouse.

Director of Engineering

CathSecure, Salt Lake City, UT

February 2024-May 2024

CathSecure was a group formed to participate in a medical entrepreneurship competition called Bench to Bedside, sponsored by UHealth and Zions Bank.

- Led the design and prototyping of a novel catheter-to-shunt connection device, utilizing 2-Photon Polymerization 3D-printing for precise, to-scale prototyping.
- Won the Best in Business award (\$5,000) at the Bench to Bedside competition by creating a comprehensive business plan, engineering design package, and poster presentation.
- Authored significant portions of a provisional patent, detailing engineering drawings and protecting innovative product designs.
- Managed project timelines, resources, and deliverables to meet critical deadlines for competition and patent filing.
- Collaborated with a multidisciplinary team to drive product development from ideation to prototyping.
- Presented the product and business plan to judges during competition night, effectively showcasing technical and entrepreneurial expertise.

PROJECTS

- Authored a 20-page analysis of the molten salt synthesis of carbon nanotubes - Advised by Prof. Michael Simpson
- Wrote a paper on the dangers of lithium production for electric car batteries
- Rebuilt a motorcycle with friends
- Rebuilt Honda Civic engine with friend

TECHNICAL SKILLS

Analytical Techniques

Scanning Electron Microscopy (SEM)	X-Ray Diffraction (XRD)	UV-Vis Spectroscopy
Energy Dispersive Spectroscopy (EDS)	Plasma Laser Deposition (PLD)	Instron Mechanical Testing

Synthesis Methods

Solid State Synthesis	Molten Salt Synthesis	Sol-Gel Synthesis	Wire Rolling/Pulling
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Computer Skills

Autodesk Inventor, Revit, Fusion 360	Adobe Photoshop and Illustrator	Python	Origin
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AWARDS & ACCOMPLISHMENTS

Temecula Valley High School Mountain Bike Team - Team Captain (Spring 2019, 2020)

Boy Scouts of America - Eagle Scout (Achieved 2017)

Engineering and Design Career Technical Education Certification (2018)

Graphic Design Career Technical Education Certification (2019)

Read 52 books in 52 weeks (2021)

Graduated high school early as a dual enrollment student (2020)

INTERESTS

Nanoengineering	Research publishing	Coding	Drafting and Design	Mountain & Road Biking	
Motorcycles & cars	3D Printing	Electric Motors	Reading	Podcasts	Space & Rockets
Entrepreneurship					