

Ashvin Handoo

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Education

Bachelor of Science in Biomedical Engineering, GPA: 3.85/4.0
University of Pittsburgh, Swanson School of Engineering

Expected May 2027 | Pittsburgh, PA

Industry Experience

Manufacturing Science and Technology Co-Op (MS&T), Kenvue 01/2025-12/2025 | Fort Washington, PA

- Supported 50+ GMP pilot and experimental batches across solid and liquid dosage forms, contributing to formulation development, process optimization, and analytical and physical testing.
- Designed and executed DOE studies, using Minitab to optimize critical process parameters, improving process robustness and product quality with an estimated annual cost-savings of \$1M+.
- Supported 3 investigations of manufacturing deviations using root cause analysis to identify contributing factors and establish Corrective and Preventive Actions (CAPA).
- Co-authored 4 technical reports summarizing DOE and statistical results, contributing to tech transfer projects.
- Led 5 technical studies on formulation robustness, SOPs, nitrosamine control, and tableting, generating data-driven recommendations for quality risk mitigation and process validation.
- Collaborated with R&D and MS&T teams on process validation, scale-up, and new product development projects.

Research Experience

Undergraduate Research Assistant, University of Pittsburgh BIONIC Lab 04/2025-present | Pittsburgh, PA

- Develop MATLAB pipelines using a signal processing library (JIDT) to preprocess data and quantify information transfer in complex neurological signals.
- Build Python-based image processing tools to validate experimental setups and automate data collection.

Undergraduate Research Intern, University of Pittsburgh BIONIC Lab 01/2024-12/2024 | Pittsburgh, PA

- Built Python pipelines to preprocess and analyze 3 complex neurological signals, enabling quantitative correlation of 200GB+ of multimodal data.
- Designed, iterated, and 3D printed custom lab fixtures to improve data capture quality and setup stability.
- Awarded \$5,000 research stipend through a competitive application process.
- Implemented a machine learning model (DeepLabCut) to automate quantification and tracking of animal pose.
- Presented findings at the 2024 BMES Conference; 2nd author on a manuscript in preparation.

Biotechnology Research Trainee, North Montco Technical Career Center 08/2022-05/2023 | Lansdale, PA

- Conducted biweekly wet lab experiments with a focus on GLP practices and proper documentation.
- Performed techniques including CRISPR, mammalian cell culture, SDS-PAGE, gel electrophoresis, PCR, ELISA, STR analysis, chromatography, and spectrophotometry.

Leadership

Head Lifeguard (Seasonal), Lansdale Area Family YMCA 06/2019-08/2025 | Lansdale, PA

- Supervised and trained lifeguard teams, maintained daily operations, and ensured emergency readiness.

Swimming Coach (Seasonal), Special Olympics 01/2023-08/2025 | Lansdale, PA

- Developed training plans and provided in-water guidance to athletes, fostering skill improvement and confidence.

Technical Skills

Programming & Data Analysis: Python, MATLAB, R, SQL, Minitab, Microsoft Office Suite.

Engineering & Design: Creo, Blender, SolidWorks, AutoCAD, PyMOL, 3D Printing.

Certifications

Manufacturing and Process Optimization (Coursera): Six Sigma Yellow Belt (Lean, 5S), Industrial Bioprocess Development, Digital Manufacturing, Advanced Process Analysis.