Edward Hong

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Experience

Material Science Specialist   09/2024 – 04/2025
H2nano   Kitchener, ON
- Lead a project on synthesizing hydrophilic coatings on photocatalysts
- Compiled and analyzed data, reviews and project plans for weekly meetings
- Designed and printed 3D CAD models for instrumentation (contact angle goniometer)
- Conducted multiple material characterizations through numerous methods (UV - Vis, SEM, FTIR, COD) for semiconductors and nanoparticles
- Processed weather data through collaborative Python projects

Lab Assistant   01/2024 – 04/2024
SMART - Lab, University of Waterloo   Waterloo, ON
- Co - authored in published research paper
- Participated in multiple projects to assist in the creation of hydrogels for the purpose of soft body robotics
- Synthesized and characterized hydrogels with nanocomposites (Crystal Nanocellulose, Iron Oxide nanoparticles)
- Designed and printed 3D CAD models for extrusion 3D printing, as well as DLP 3D printing
- Shape-change programming of hydrogels through a gradient in chemistry for soft robotic applications
- Debriefed projects during conference meetings to ensure intercommunication skill
- Took stock of chemicals and created product comparison charts between different providers

Concept Designer (Azure Engineering)   06/2023 – 08/2023
Avanade   Hamilton, ON (Remote)
- Created prototype AI solutions through Azure services to help prevent financial frauds against older adults
- Learned and assessed AZ-900 and AI-900 through exams to prove validity
- Gained deep understanding of Azure Cloud Services, Machine Learning, and Artificial Intelligence

Warehouse Associate   06/2022 – 09/2022
Amazon   Hamilton, ON
- Collaborated with peers to store, organize and deliver items to residents and other warehouses in a timely manner
- Practiced good time management and spatial cognition skills by working vigilantly to stock up 150+ items per hour, in a large and busy warehouse

Education

Honours Nanotechnology Engineering   09/2022 – Present
University of Waterloo   Waterloo, ON
- Wrote technical lab reports on affects of nanofillers on nanocomposites' mechanical and thermal properties
- Conducted impact and tensile tests, Differential Scanning Calorimetry (DSC), Thermogravimetric Analysis (TGA), and Atomic Force Microscopy (AFM), isolate target products from solutions
- Synthesized nano silver particles to determine its effectiveness against elimination of micro-organisms for biology
- Knowledge of circuits and electromagnetism concepts
- Conducted dry labs by utilizing COMSOL simulation, Oscilloscope, soldering, and circuit building
- Characterized materials through variety of instrumental methods
- Utilized Scanning Electron Microscopy (SEM) to determine topography and composition of semiconductors
- Synthesized silicon wafers through Plasma Vapour Deposition (PVD) and Lithography to perform Ellipsometry
- Acquainted with MOSFETs and fundamentals of nanoelectronics.
- Acquired hands-on laboratory experience in general photonics.

Additional Skills

Proficient in Python, MATLAB, and C++   COMSOL Simulation, Oscillator

DC Sputtering System, MJB Mask Aligner, Raman