Noam Gamburg

(224)-616-4541 · noamg3@illinois.edu · www.linkedin.com/in/noam-gamburg · noamgam07.wixsite.com/portfolio

Education | GPA: 3.9/4.0

University of Illinois Urbana-Champaign **Champaign, IL**
Bachelor of Science in Chemical Engineering | Minor - Materials Science and Engineering Expected: **May 2029**
Accolades: National Chemistry Olympiad Finalist (Israel), Award for Academic Excellence - Open University of Israel

Technical Skills

Molecular & Materials Simulation: LAMMPS, GROMACS, VMD, OVITO, Avogadro, DFT, Gaussian, ORCA, Scientific ML
Programming & Automation: Java, Python, CUDA, PyTorch, Git, MATLAB, Pandas, Bash, Linux/Unix, HPC, NumPy, SciPy
Scientific Visualization & Design: Autodesk Maya, Houdini, Blender3D, Fusion360, Unreal Engine, GPU Optimization

Experience

Jun Laboratory - Research Assistant **September 2025 - Present**
University of Illinois
- Development of machine learning models (PyTorch) to predict physicochemical properties of organic molecules, enabling data-driven optimization of chemical tool candidates
- Applying DFT-calculation-based computer simulations to model properties of organic molecules, greatly accelerating research progress; Avogadro, ORCA, and Gaussian

Computational Visualization & Design Consultant **November 2023 - Present**
Self-Employed
- Delivering 3D product visualizations and industrial design solutions to **50+ international clients**
- Collaborating with design teams from Teva, Alfano, Ejer Paris, and the French National Energy Exhibition
- Applying motion design, UI/UX principles for client-ready presentations and prototypes

Founder & Chapter President - Society of Biomaterials **October 2025 - Present**
University of Illinois
- Leading the establishment of the UIUC chapter for the Society of Biomaterials, focused on biomaterials design, research, and applications
- Coordinating faculty engagement, student outreach, and alignment with Society for Biomaterials initiatives

University Startup - Product Development Internship **August 2025 - Present**
University of Illinois
- Applying software development and computer vision to create a hardware-software solution for those seeking to learn sign language through a connected electronic glove and phone application

Virtual Asset Developer - *SOBA Studios* **October 2023 - April 2024**
- Created and tested production-grade 3D assets for game-development software
- Collaborated with an international engineering and design team for an initial Q3 2023 Launch

Visualization Specialist - Zarasai District Municipality **December 2023 - February 2024**
- Developed an interactive 3D town model for a public exhibit using photogrammetry, Gaussian splatting, and Blender3D
- Applied volumetric rendering techniques, reducing storage requirements by **10-50x** while preserving visual fidelity

Projects

Machine Learning - Enhanced Molecular Simulations **October 2025 - Present**
- Developed a proof-of-concept predictive ML model using LAMMPS simulation data to predict molecular behavior with reduced computational resources compared to physics-based models
- Achieved up to 10x reduction in GPU compute on selected benchmark simulations while preserving physical accuracy

Computational Molecular Dynamics - App Development (Python & CUDA) **March 2025 - Present**
- Designed and implemented an interactive Python-based application enabling researchers to manage molecular simulations without complex command-line inputs, vastly increasing workflow efficiency
- Integrated AI-driven workflow automation, allowing predictive parameter optimization and automated data processing for input files, alongside implementation of GPU-accelerated simulations

Independent Computational Molecular Dynamics Research **September 2024 - Present**
- Designing, optimizing, and simulating molecular and biomolecular systems using LAMMPS/GROMACS/ORCA
- Conducting nanoparticle and protein denaturation simulations, leveraging visualization software - Houdini, Blender3D

Languages

English - Native, Hebrew - Native, French - Native