Noam Stanislawski

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EDUCATION

William & Mary   Williamsburg, VA
Bachelor of Science in Computer Science, Minor in Religious Studies   *2019 – 2023*

EXPERIENCE

R&D Intern   May 2022 – August 2022
Sandia National Labs   *Albuquerque, NM*
- Utilized parallel performance models to analyze linear solver efficacy for large-scale problems.
- Created a performance model comparing Trilinos' performance to PETSc and HYPRE.
- Researched the impacts of execution speed, bandwidth, and network communication relative to performance.

Undergraduate Researcher   August 2021 – December 2021
Coastal Virginia Center for Cyber Innovation (COVA CCI)   *Williamsburg, VA*
- Conducted research in relation to AI bias with Generative Adversarial Networks (GANs).
- Worked with W&M Law School professor for interdisciplinary research applications.
- Presented findings at research symposium alongside other undergraduates.

Undergraduate REU Researcher   June 2021 – August 2021
South Dakota State University   *Brookings, SD*
- Summer long research regarding the optimization of HPC clusters using Hyper-Threading.
- Worked alongside research computing staff at SDSU to create development cluster for analysis.
- Presented research findings at a state-wide symposium.

PROJECTS

Performance Modeling for Large-Scale Linear Applications | *C++, Trilinos, MPI*   Summer 2022
- Created a performance model testing the efficiency of sparse matrix vector products calculated with Trilinos.
- Ran and verified data from various benchmarks in order to find computational limits for linear solvers.
- Wrote research paper comparing the data from the model to real problems utilized by Sandia scientists.

HPC Optimization Using Hyper-Threading | *Intel OneAPI*   Summer 2021
- Tested HT efficacy using the NPB HPC benchmarking suite monitored by Intel's VTune Profiler.
- Compared both front-end and back-end metrics (port utilization, cache misses) for statistical analysis.
- Created concrete guidelines for HT utilization dependent on research software's parallelized code and vectorization.

Tackling AI Bias with GANs   Fall 2021
- Researched the potential of a GAN-structured model to combat biases found within traditional CNNs.
- Reviewed various cases where human biases corrupted AI models so far that they were scrapped entirely.
- Suggested a twofold approach of creating AI models with higher levels of scrutiny alongside sociological approaches to bias training.

SKILLS

Languages: C/C++, Python, UNIX, Bash, MIPS Assembly, MATLAB, Java
Frameworks & Tools: Slurm, MPI, Linux, Red Hat, Trilinos, LaTeX, Git, Android Studio

EXTRACURRICULARS

Alpha Epsilon Pi: 2020 Recruitment Chair and 2021-22 New Member Chair
W&M Hillel: 2021-22 Social Chair
Tribe TutorZone: Math and Computer Science Peer Tutor