Gagan Daroach

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Education

Milwaukee School of Engineering (MSOE)   Milwaukee, WI
Bachelor of Science - Software Engineering Major, Mathematics Minor   Sept 2017 - May 2021
Dean's List, Graduated with Honors
Relevant Coursework: Deep Learning, Artificial Intelligence, Machine Learning, Data Science, Software Development, Algorithms, Software Engineering Process, Realtime Systems, Linear Algebra, Calculus, Differential Equations, Physics, Network Protocols

Work Experience

Milwaukee School of Engineering   Milwaukee, WI
EECS Systems Administrator, Full Time   March 2020 – Present
- Sole autonomy and responsibility to provide engineering and administration for Rosie, a 100+ Nvidia GPU HPC system.
- Develop a technical understanding of distributed computing, high-speed networking, Linux, and analytics infrastructure.
- Identify, engage, and support the needs of faculty, students, and industry partners in various academic and research workloads.
- Curate a campus wide supercomputing culture and facilitate the increase of cluster academic usage by over 400%.

Nvidia Corporation   Bethesda, MD
Applied Research Intern, Full Time   May 2020 – August 2020
- Member of Nvidia DLMED, a cross-discipline team of 20+ researchers and engineers solving modern computer vision challenges in medical imaging with federated learning, auto machine learning, and deep learning frameworks.
- Developed a deep adversarial learning workflow for Project MONAI, the Medical Open Network Artificial Intelligence PyTorch extension framework aiming to standardize and simplify medical imaging research globally.
- Developed RadioGenomic GAN, a synthesis network mapping gene expression data onto diagnostic medical image features.

Cognex Corporation   Milwaukee, WI
Product Marketing Intern, Part Time   Sept 2019– March 2020
- Performed competitive product intelligence gathering, generated backlog engineering deliverables, and created product demos.
- Developed internal tooling to automate Product Marketing workflow, reducing repetitive manual work by high factor.

Software Engineering Intern, Full Time in Summer & Part Time   May 2018 – Sept 2019
- Enterprise scale C# application development of new features and product maintenance in formal Scrum Agile workflow.
- Developed continuous integration regression testing and robust quality assurance pipelines for next generation products.

Research and Project Experience

TrackingVision Startup   Milwaukee, WI
Senior Design Project (Capstone)   Sept 2020 – May 2021
- Led a five-engineer team to design and deploy a scalable modern video analytics system using real time computer vision inference and the Nvidia Deepstream C SDK, processing more than 100 MSOE 4K cameras into live meta-data dashboards.
- Collaborated with the MSOE Public Safety Department as scrum master, product owner, and software architect to gather requirements, organize the team product backlog, prioritize feature development, and deliver on periodic project releases.
- Leveraged Kafka message broker, on-site edge inference nodes, and self-hosted cloud to architect meta-data processing solution.

Medical College of Wisconsin   Milwaukee, WI
MCW PURE Student Researcher, MSOE Undergraduate Researcher   May 2019 – Present
- Research, identify, and present novel deep learning solutions to modern medical imaging challenges in oncology and pathology.
- Design and execute HPC data processing pipelines, multi-GPU neural network experiments, and data analytical notebooks.
- Primary author of publication *High-resolution Controllable Prostatic Histology using StyleGAN* 10.5220/0010393901030112.
- Present research at Nvidia GTC 2020, Nvidia GTC 2021, BIOSTEC Bioimaging 2021, Data Driven Milwaukee, and more.

Milwaukee School of Engineering   Milwaukee, WI
Software Design Lab   Sept 2019 – May 2020
- Collaborated with the Medical College of Wisconsin to develop a simulator to train orthopedic residents on percutaneous femoral neck fixation, a procedure in which the surgeon drills into a patient's hip to repair fractures via x-ray guidance.
- Created a Docker containerized micro-service solution on the raspberry pi ARM platform, leveraging OpenCV to process cameras and broadcast data to mobile devices via WiFi served ReactJS web interface for moderators and residents.