

Forrest Meng

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EDUCATION

Virginia Polytechnic Institute and State University, Blacksburg, VA

Anticipated Graduation Dec 2024

Bachelor of Science in Computer Engineering (Machine Learning) | Minors: Computer Science – 3.96 GPA

Awards/Recognition: Calhoun Honors Discovery Program Scholar, LabLab Cohere Hackathon (1st Place), LionHacks (2nd Place Arbitrum Track), Streamline Climate AI Hackathon (Best CO2 Reduction), MLOps LLM Hackathon (1st Place), Neo Scholar Finalist

Relevant Coursework: Operating Systems, Advanced Machine Learning, Data Structures and Algorithms, Control Theory

Thomas Jefferson High School for Science and Technology, Alexandria, VA

August 2017 – June 2021

WORK EXPERIENCE

Susquehanna International Group, Software Engineering Intern, Bala Cynwyd, PA

June 2024 – Present

- Bridged to all traders new multicast data from parsers and strategy programs in C++ to market data visualizers in C# and .NET.
- Upgraded strategy sharing applications with high-fidelity “trashcan” features in .NET and dragging interactions in Svelte.
- Researched pairs trading strategies in an algorithmic trading project and analyzed big data sets in a quant dev challenge.

Roblox, Software Engineering Intern, San Mateo, CA

May 2023 – August 2023

- Launched new APIs for GUIObjects and an “Interactable” dev-facing state in production clients for over 9 million developers.
- Lead cross-team system design meetings on new UI state implementations and algorithms with legacy C++ components.
- Accelerated the performance of UI state changes with async layer data model tasks and efficient quadtree collision checks.

SCOUT Inc., Software Engineering Intern, Alexandria, VA

May 2022 – August 2022

- Trained EfficientPose algorithm-based AI and CV model to detect the attitude for LEO space domain awareness applications.
- Automated the generation and evaluation of 16,000 images, achieving an 85% pose detection accuracy from the AI model.
- Deployed Channels on a Django server for a space optics web visualizer, returning a Blender render determined by user input.

RESEARCH AND EXTRACURRICULARS

Student Engineers’ Council at Virginia Tech, Director of Operations, Blacksburg, VA

September 2021 – May 2024

- Organized the largest college career fair on the East Coast, hosting 300+ companies and bringing in \$700k in revenue.
- Spearheaded new publicity campaigns, resulting in 3000% more account and user engagement on SEC social media accounts.

Latis Network, Team Lead, Blacksburg, VA

December 2022– May 2024

- Prototyped secure over-the-air IoT firmware autonomous update pipeline built on decentralized ledgers and hardware keys.
- Employed Web3 contracts to facilitate transaction consensus and staged files on IPFS for Filecoin decentralized blob storage.
- Reported the project to Boeing CEO and execs, showcasing applications of DLTs in mitigating unauthorized firmware access.

Collaborative Robotics Lab, Undergraduate Research Assistant, Blacksburg, VA

August 2022 – June 2023

- Implemented real-time SLAM algorithms on a FETCH Mobile Manipulator robot through collected visual and infrared data.
- Trained risk-averse ML algorithm in Python to CARLA where the robot learns and predicts a human’s real-time movement.
- Published paper on StROL method in IEEE Robotics and Automation: DOI 10.1109/LRA.2024.3354626.

PERSONAL PROJECTS

Threadpool, Virginia Tech

March 2024

- Designed a work stealing and work helping thread pool in C, achieving a 40% increase in speed by minimizing locking.

Artscaper.net, Personal Project

November 2022– July 2023

- Built an image search and real-time collaborative reference tool for artists using SvelteKit, Typescript, and TailwindCSS.
- Incorporated OpenAI GPT-3.5 API for query generation with Weaviate and FAISS for returning semantically relevant images.
- Onboarded 50 beta testers and art studios with a secure OAuth, SMTP server, and custom built websocket-based live canvas.

NeRF This, Research Project

February 2023 – July 2023

- Systematized stable diffusion models with neural radiance field pipeline to increase visual accumulation in NeRF render.
- Formulated a “camera-walk” algorithm, moving the camera matrix along NeRF normals to generate new views stochastically.

ADDITIONAL INFORMATION

Technical Skills: C++, Java, C, Python, TypeScript, Svelte, C#, ReactJS, Django, Linux bash, TailwindCSS, MATLAB, Git, Keras, Jupyter, Tensorflow, SKLearn, NextJS, Unity, Pandas, OpenCV, AWS, Arduino, Vagrant, QT, Figma, Verilog, .Net Core, Rust

Languages: English (Native, Fluent), Mandarin Chinese (Verbally Fluent)