Nikhil Chandrasekar

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EDUCATION

B.S. Computer Science(*Machine Learning Track*) / B.S. Mathematics(*Statistics Track*) — Aug 2022 - May 2025

University of Maryland, College Park, MD — 3.862 GPA

CS Courses: Artificial Intelligence; Machine Learning; Deep Learning; Information-Centric Design of Context-Aware Systems; Organization of Programming Languages; Programming Language Technologies and Paradigms; Algorithms; Computational Systems; Data Science; Discrete Structures; Computer Systems;

Math/Stats Courses: Probability Theory; Probability Models; Applied Statistics & Probability I/II; Statistical Computing using SAS; Advanced Calculus I; Calculus I-III; Differential Equations; Applications of Linear Algebra

TECHNICAL SKILLS

Languages: Python/Pandas/Numpy/Seaborn/Scikit-Learn/TensorFlow/Keras/PyTorch/Matplotlib, Java, C, OCaml, Rust, SQL, JavaScript/AngularJS, Dafny, Haskell, HTML, CSS, MIPS Assembly, Matlab, R, SAS

Technology: Microsoft Azure, AWS, PowerBI, Git, Power Query, Power Apps, Figma, SSMS, Spring Boot, Spring Cloud Data Flows, OpenAI Gymn, RabbitMQ, Kafka, Agile, Kubernetes, MuJoCo, Google Cloud, Unix, Windows, Eclipse/VSCode, Jupyter

Certifications: AZ-900 Azure Fundamentals, AWS Cloud Practitioner

RELEVANT EXPERIENCE

Perception Robotics Group at UMD: AI Research Assistant | *Third Author* — Aug 2024 – Present
- Collaborating with a research team to design and train an ML model to use embodied visuomotor representation theory to allow a robot to measure distance by its own actions to reduce dependence on calibrated sensors
- Referencing papers on infant motor development to implement similar techniques in the model, resulting in more natural and efficient movements
- Leveraging PyTorch for development and MuJoCo for simulations

UPS: Software Developer Intern/Co-Op — Jun 2023 – Aug 2024
- **Payments Dashboard**
  - Built live and interactive data visualization software to handle over 1.5 million payments from US/Canada using PowerBI and Power Query for senior management
  - Wrote SQL queries for initial analysis and developed ETL process to load data into SQL server
- **Spring Cloud Data Flows Migration**
  - Improved processing speed by 15% using data flows made with Spring Boot and Spring Cloud Data Flows
  - Enhanced system efficiency by migrating processes from Spring Batch Admin to Spring Cloud Data Flows
  - Ensured reliable and scalable deployment processes by deploying applications using DevOps methodologies on Google Kubernetes Engine (GKE)
- **Payment Data Tokenization and Conversion App**
  - Rewrote the PDTC app from JSP to AngularJS, improving user interface responsiveness by 11%

PROJECTS

EVE Online Deep Learning Agent — Sep 2024 - Dec 2024
Utilized Deep Learning to train an agent to play the MMORPG game EVE Online
- Trained agent to work in Player versus Environment scenarios simulated using OpenAI's Gymnasium framework
- Utilized Deep Q Networks, Proximal Policy Optimization, and Reinforcement Learning

JokeGPT — November 2024 - December 2024
Developed and trained a Generative Pretrained Transformer to generate and tell dad jokes
- Developed a custom 10.75M parameter custom GPT with a Multilayer Perceptrons with Causal-Self Attention
- Designed in Python using NumPy, Pickle, and Torch

Office Hours Optimization — Nov 2023 - Dec 2023
Developed an algorithm to allocate teaching assistants (TAs) best to minimize office hours wait time by 28%
- Used Poisson processes to model students enqueuing and dequeuing and collected data for building and verifying model
- Used R to determine the best way to allocate a fixed number of TAs for the lowest queue length on average

UPS Hackathon Projects — Jul 2023 / Jul 2024
- **UPS Project Portal App**
  - Designed a portal for clients and UPS to keep track of project status, input updates, and update the UI using PowerApps, Microsoft Dataverse, and PowerBI
  - Won 3rd place in the Microsoft category out of 52 teams of UPS employees, co-ops, and interns
- **UPS Improved Payment Widget**
  - Revamped the UPS.com website to promote ACH transactions and if implemented, would reduce processing fees and labor costs by 48%
  - Developed using HTML, CSS, JavaScript, and Angular, and utilized Microsoft Azure for backend and hosting

LEADERSHIP EXPERIENCE

AWS Cloud Club @ UMD: President and Founder — May 2023 – Present
- One of around 100 students worldwide selected by AWS to create and run an AWS-sponsored student organization
- Organizing lectures, workshops, projects, guest lectures, and certification exam prep for 400+ members