Ananth Shreekumar

Graduate Student, Department of Computer Science
Purdue University

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Education

Master of Science in Computer Science   **Expected Dec 2023**
Purdue University   *West Lafayette, IN*
- GPA : 4.0 / 4.0

Integrated Master of Technology in Computer Science and Engineering   **Jul 2021**
International Institute of Information Technology Bangalore   *Bangalore, India*
- 5 year Bachelor's + Master's program, GPA : 3.92 / 4.0

Experience

Purdue University   **Aug 2022 - present**
Graduate Teaching Assistant   *West Lafayette, IN*
- CS 352 Compilers: Principles and Practice. Spring 2023. Supervised lab sessions, held office hours, and proctored and graded exams.
- MA 165 Analytic Geometry and Calculus I. Fall 2022. Held lecture recitation classes and office hours every week, proctored exams.

American Express   **Aug 2021 - Dec 2021**
Software Engineer, Enterprise Architecture Team   *Bangalore, India*
- Integrated machine learning capabilities to internal logging, monitoring, and observability framework to detect anomalous behavior using the Anomaly Detection Toolkit library.
- Implemented a pipeline to perform automated log analysis on real-time log data collected from various internal systems that uses Logstash, Elastic Search, and Kibana.

Siemens Healthineers   **Jan 2021 - Jul 2021**
Technical Intern, Center for Innovation in Diagnostics Team   *Bangalore, India*
- Designed a pipeline to predict Sepsis onset in ICU patients using deep learning, specifically LSTMs implemented in Tensorflow and Keras, on data collected from bedside measurements.
- Model performance exceeded 87% on accuracy, F1-score, specificity, and sensitivity metrics.

Technical Skills

Programming Languages : Python · C++ · C   **Tools** : Git · Docker · LaTeX · Jenkins
ML : Pytorch · Tensorflow · Scikit-Learn · Pandas · Numpy   **Others** : OpenCV · SQL · Linux

Selected Academic Projects

Reinforcement Learning to play the Snake game
- Created the Snake game environment using OpenAI Gym library.
- Implemented reinforcement learning by tabular methods and by Q function approximation using deep neural networks in Pytorch.
- Implemented double DQN and priority sampling to improve training by learning faster.

Compiler for a variant of C
- Built a fully functional compiler for a variant of C language using C++ and the LLVM framework.
- Included syntax and semantic analysis, intermediate code generation, and register allocation.

A Bargaining Agent for E-Commerce
- Designed an E-Commerce Agent that has the ability to bargain with a user by offering discounts, recommending product bundles, and evaluating counter-offers made by the user.
- Created a prototype in Python and Flask to perform experiments.
- Featured on a `technology.org` article.

Relevant Coursework

- Algorithms
- Machine Learning
- Database Systems
- Reinforcement Learning
- Compilers
- Computer Networks
- Operating Systems
- Software Engineering