Nishad Wajge

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TECHNICAL SKILLS

- **Languages:** Python, Java, C, R, RStudio, Linux, Bash, MATLAB
- **AI/ML Tools:** PyTorch, TensorFlow, Seaborn, Matplotlib, NumPy, Pandas, ggPlot2
- **Developer Tools:** IBM Engineering Workflow Management, Jenkins, Maven, GitLab, SharePoint, Excel

EDUCATION

University of Maryland, College Park **2023 – 2026**

BS Computer Science (Concentration: Machine Learning), Minors Business Analytics and Statistics *College Park, MD*

- Relevant Coursework: Algorithms, Organization of Programming Languages, Data Science, Discrete Structures, Computer Systems, Object-Oriented Programming, Applied Probability & Statistics, Multivariable Calculus, Linear Algebra, Microeconomics, Business Statistics

EXPERIENCE

Internal Revenue Service, U.S. Department of the Treasury **Jan 2024 – Present**

Software Engineer Intern *Washington, DC*

- Assisted in modernizing systems and business processes in the Division of IT's RRP Fraud & Analytics Branch
- Deployed division-wide **CI/CD pipeline** upgrade from **IBM EWM** and **Ant** to **GitLab** and **Maven** through automated servers
- Implemented the IRS Commissioner's Strategic Operating Plan to upgrade all servers from **Java 16** to **Java 21** using **Jenkins**
- Researched best practices, identified automation opportunities, attended **DevOps** meetings, and maintained **SharePoint** sites

Institute for Advanced Computer Studies, University of Maryland[1] **Oct 2023 – Present**

Undergraduate Research Assistant *College Park, MD*

- Designed and proposed a solution to **OpenAI's weak-to-strong generalization** dilemma
- Constructed a **self-attention model** implementing the weak-to-strong framework and **AdaBoost** for **NLP** tasks
- Recreated the accuracy of supervised datasets to within **<2%** without being as computationally expensive
- Finetuned model accuracy by comparing pretrained LLMs including **OpenAI's GPT** and **Alibaba's Qwen** models

HEC Lausanne[2] **Jan 2021 – Oct 2023**

Research Intern *Remote*

- Engineered a multi-agent **reinforcement learning** decision-making algorithm to optimize playing strategy for golfers
- Developed a novel **Markov Decision Process** framework for 2-player, turn-based stochastic shortest path problems
- Integrated proprietary Professional Golf Association's **ShotLink** database containing **600,000+** golf shots

PROJECTS

Using Model Classification to Detect Bias in Hospital Triaging[3] **Jun 2022 – Sep 2023**

- Crafted a regression model to predict hospital triaging quality for different demographics from **10,000+** patient database
- Leveraged **3** techniques **(KNN Classifier, F1-Score, Random Forest)** for classification task using **TensorFlow** and **Seaborn**
- Analyzed data using **SHAP Values** and constructed confusion matrices to find associations with **75%+** accuracy

Campaigns to Overcome Golfers' Loss-Averse Cognitive Bias[4] **Jun 2022 – Aug 2023**

- Conducted experiments to reveal loss-averse bias for golfers of all skills and demographics through **MATLAB**
- Implemented **5+** statistical techniques and inference tests to uncover relationships from **100+** participant datapoints

PUBLICATIONS

- (1) Under review for to Neural Information Processing Systems (NeurIPS) Conference. 2024
- (2) Under review for the INFORMS Management Science Journal. 2024
- (2) Shortlisted for presentation at the MIT Sloan Sports Analytics Conference. 2024
- (2) Presented as the only high school student at INFORMS Annual Meeting, attended by 5,500+. 2022
- (3) Annals of Biomedical Science and Engineering. 7: 24-30, 2023
- (3) Highlighted article in Stanford University School of Medicine JUST Health Journal. 5: 13-16, 2022
- (4) International Journal of High School Research. 6, 5: 93-97, 2024

ACTIVITIES

University of Maryland Club Golf **Jan 2024 – Present**

Social Chair & Executive Board Member *College Park, MD*

- Coordinated with other clubs to host events and socials and act as a liaison for alumni and prospective club members
- Oversaw all media, including posting updates, tournament highlights, and maintaining relations with the club sports office