JAYNEEL VORA

Davis, CA | jrvora@ucdavis.edu | www.jayneelvora.com

SUMMARY

Fourth-year Ph.D. candidate trained in private machine learning and ML systems, systems designing, and software development with solid communication skills developed from extensive teaching experiences. Sound ability to work independently and as a part of a team.

EDUCATION

University of California at Davis – Ph.D. in Computer Science (3.87/4.00)   Sept 2019-expected Dec 2024
Advisor: Dr. Prasant Mohapatra, M.S in Computer Science (June 2023)

Institute of Technology, Nirma University - B.Tech in Computer Engineering   2015-2019

SKILLS

Mathematical Maturity	Discrete Math, Calculus, Linear Algebra, Complex Analysis, Optimization
Theory Maturity	Federated Learning, Quantization, Deep Learning, Distributed Systems, Graph Representation Learning
Programming Language	Python, SQL, PHP, Qiskit, C, C++ read: R, Java, MATLAB
Framework and Tools	Tensorflow, PyTorch, Git, LaTeX, WinDbg, CUDA, ONNX, WSL

PROFESSIONAL ACTIVITY

1. Program Committee Member, GameSec 2021, 2022, 2023
2. Reviewer, Wiley- Security and Privacy Journal
3. Shadow Program Committee, IEEE Security and Privacy 2020
4. GSA Representative, UC SHIP and Committee on Courses
5. Judge, HackDavis 2021, HackDavis 2022
6. Program Committee Member, SIGCSE TS 2022,2023

TEACHING

1. Teaching in Computer Science, Instructor   Fall 2020, Fall 2021
2. Probability and Statistical Modeling, Lead Graduate Teaching Assistant   Summer 2020
3. Discrete Mathematics, Lead Graduate Teaching Assistant   Winter 2020, Spring 2020, Winter 2021, Spring 2021

AWARDS

1. CS TA of the Year award UC Davis- 2021
2. Best Paper Award, 2019 IEEE ICC Workshops: SecSDN
3. CS Department Fellowship, UC Davis- 2019
4. Travel Award, *IEEE COMSOC* for attending IEEE GLOBECOM 2018

INTERNSHIP EXPERIENCE

Machine Learning Hardware Intern at Intel, Hillsboro, Oregon   June-Sep 2023
- Designed and developed a framework to performance test deep NLP models in ONNX on generational Intel processors.(Py,C,Win,Linux)
- Focused on showcasing value to customers for DistilBert and LayoutLM with source control and optimizing the ONNXRuntime.

Operating Systems Intern at Intel, Hillsboro, Oregon   Jan-Dec 2022
- Conducted workload analysis, optimized memory migration using PCIe device, and created performance histograms (C++, Python).
- Engineered kernel operations app/driver tools, enhancing source control with Git (C).
- Explored VM installation feasibility with dedicated memory, contributing to virtualization efforts.
- Streamlined development by devising driver templates fostering team source control awareness (Git, C)

Engineering Intern(Ph.D.) at Garrett Motion, Atlanta, GA   Sep-Dec 2021
- Conducted attack surface analysis on V2X protocols, detecting vulnerabilities and developing a demo IDS for mitigation.
- Assessed market feasibility for V2X expansion by leveraging insights from the analyzed protocols and vulnerabilities.

Graduate Student Researcher at Lawrence Berkeley National Laboratory, Berkeley, CA   Jun-Sep 2020
- Engineered privacy-preserving query engine within a 50k entries dataset, employing differential privacy frameworks (SmartNoise and OpenDP) for query accuracy; assessed Laplacian noise parameters' influence on convergence metrics.

AI and HCI Intern at BrunHealth Pvt Ltd, India   May 2018-Apr 2019
- Implemented user-profiling algorithms, message matching, and an innovative information delivery system benefiting expectant mothers, resulting in a 29% boost in user retention and a 44% reduction in user turnaround time compared to human responses on FB page.

Tech Intern at Sentinel Healthcare, Seattle, WA (now Alertive Healthcare)   May 2017 - July 2017
- Built a gait analysis wearable with 73% accuracy and contributed to a stroke detector facial recognition app using OpenCV.

SELECTED PUBLICATIONS (Google Scholar: [Link])

1. **(WIP)Vora J,** Mohapatra P, "Hardware Aware Quantizing for Graph Neural Networks", AAAI 2024
2. (submitted)**Vora J**, Mohapatra P, "Exploring privacy-fariness trade-off of bit quantization on Graph Neural Networks", IEEE S&P 2024.
3. Townsley SK, Basu D, **Vora J**, Wun T, Chuah CN, Shankar P, "Predicting Venous Thromboembolism (VTE) Risk in Cancer Patients Using Machine Learning" Health Care Science (2023).
4. **Vora J,** Shankar S, Higareda A, Abeduto L, Shankar P "Automated Identification and Indexing of Genes and Variants using Bidirectional Encoder Representations from Transformers" at ACMG Annual Meeting, SLC- 14-18 March 2023
5. **Vora J.**, Kaneriya S, Tanwar S, Tyagi S, Kumar N, Obaidat M, "TILAA: Tactile Internet-based Ambient Assisted Living in fog environment" in Future Generation Computer Systems, Elsevier
6. S. Tanwar, **Vora J.**, S. Kaneriya, S. Tyagi, N. Kumar, V. Sharma, I.You, "Human Arthritis Analysis in Fog Computing Environment using Bayesian Network Classifier and Thread Protocol" in IEEE Consumer Electronics Magazine
7. **Vora J.**, S Tanwar, S Tyagi, N Kumar, and Joel J P C Rodrigues, "HRIDaaY: Ballistocardiogram-based Heart Rate Monitoring Using Fog Computing." at IEEE Global Communications Conference (IEEE GLOBECOM-2019), Hawaii, USA, 9-13 Dec 2019.
8. **(best paper award)**Kaneriya S,**Vora J.**, Tanwar S, Tyagi S, "Standardising the use of Duplex Channels in 5G-WiFi Networking for Ambient Assisted Living" at 2019 IEEE International Conference on Communications Workshops (ICC Workshops): SecSDN: Secure and Dependable Software Defined Networking for Sustainable Smart Communities (ICC 2019 Workshop - SecSDN)", 20-24 May 2019.