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# Akshay Kolgar Nayak

## Education

- 2023–present **Doctor of Philosophy (Advised by Dr. Vikas Ashok)**, Department of Computer Science, Old Dominion University (Expected Graduation: December 2026).
- 2023–2025 **Master of Science (Advised by Dr. Vikas Ashok)**, Department of Computer Science, Old Dominion University (GPA: 3.83/4).
- 2016–2020 **Bachelor of Engineering (Advised by Dr. Thippeswamy M N)**, Computer Science, Visvesvaraya Technological University (GPA: 3.4/4).

## Publications

### Journal Articles

- J3 Md Javedul Ferdous, **Akshay Kolgar Nayak**, Yash Prakash, Nithiya Venkatraman, Sampath Jayarathna, Hae-Na Lee, Vikas Ashok, Understanding Online Discussion Experiences of Blind Screen Reader Users, *International Journal of HumanComputer Interaction (IJHCI)*(Accepted), , 2025.
- J2 **Akshay Kolgar Nayak**, Yash Prakash, Sampath Jayarathna, Hae-Na Lee, Vikas Ashok, Insights in Adaptation: Examining Self-reflection Strategies of Job Seekers with Visual Impairments in India, *Proceedings of the ACM on Human-Computer Interaction (PACMHCI)* (Accepted), volume 9, Article CSCW304, 2025.
- J1 Yash Prakash, **Akshay Kolgar Nayak**, Mohan Sunkara, Sampath Jayarathna, Hae-Na Lee, Vikas Ashok, All in One Place: Ensuring Usable Access to Online Shopping Items for Blind Users, *Proceedings of the ACM on Human-Computer Interaction (PACMHCI - EICS)*, volume 8, Article 257, 2024.

### Conference Articles

- C7 **Akshay Kolgar Nayak**, Yash Prakash, Md Javedul Ferdous Sampath Jayarathna, Hae-Na Lee, Vikas Ashok, Examining Inclusive Computing Education for Blind Students in India, *Proceedings of the 57th ACM Technical Symposium on Computer Science Education (SIGCSE - Accepted)*, 2026.
- C6 Mohan Sunkara, **Akshay Kolgar Nayak**, Sandeep Kalari, Yash Prakash, Sampath Jayarathna, Hae-Na Lee, Vikas Ashok, Adapting Online Customer Reviews for Blind Users: A Case Study of Restaurant Reviews, *Proceedings of the 22nd International Web for All Conference (W4A - Accepted)* (**Best Paper**), pp 1–12, 2025.
- C5 Nithiya Venkatraman\*, **Akshay Kolgar Nayak\***, Suyog Dahal, Yash Prakash, Hae-Na Lee, Vikas Ashok, AccessMenu: Enhancing Usability of Online Restaurant Menus for Screen Reader Users, *Proceedings of the 22nd International Web for All Conference (W4A - Accepted)*, pp 1–12, 2025.
- C4 Yash Prakash, Pathan Aseef Khan, **Akshay Kolgar Nayak**, Sampath Jayarathna, Hae-Na Lee, Vikas Ashok, Towards Enhancing Low Vision Usability of Data Charts on Smartphones, *IEEE Transactions on Visualization and Computer Graphics (TVCG - IEEE VIS)*, volume 31, Article 1, 2025.

- C3 Yash Prakash, **Akshay Kolgar Nayak**, Sampath Jayarathna, Hae-Na Lee, Vikas Ashok, Understanding Low Vision Graphical Perception of Bar Charts, *Proceedings of the 26th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*, pp 1–10, 2024.
- C2 Mohan Sunkara, **Akshay Kolgar Nayak**, Sandeep Kalari, Satwik Ram Kodandaram, Sampath Jayarathna, Hae-Na Lee, Vikas Ashok, Assessing the Accessibility and Usability of Web Archives for Blind Users, *International Conference on Theory and Practice of Digital Libraries (TPDL)*, volume 15177, pp 203–221, 2024.
- C1 Yash Prakash, **Akshay Kolgar Nayak**, Shoaib Mohammed Alyaan, Pathan Aseef Khan, Hae-Na Lee, Vikas Ashok, Improving Usability of Data Charts in Multimodal Documents for Low Vision Users, *Proceedings of the 26th International Conference on Multimodal Interaction (ICMI)*, pp 498–507, 2024.

#### Conference Short Articles

- S1 Mohan Sunkara, **Akshay Kolgar Nayak**, Sandeep Kalari, Yash Prakash, Sampath Jayarathna, Hae-Na Lee, Vikas Ashok, QuickQue: Enabling Quick Access to Information in User Reviews for Screen Reader Users, *Proceedings of the 22nd International Web for All Conference (W4A - Accepted)*, 2025.

### Professional Experiences

- Jan 2023 – **Graduate Research Assistant at HandsOn Lab, ODU**, Hosted by Prof. Ajay Gupta, Projects:  
Aug, 2023 (i) Admin Portal for Taste of India Festival (ReactJS, NextJS, NestJS, JavaScript, MySQL, Docker); (ii) Predictive Modeling with Prostate Cancer Data (with Eastern Virginia Medical School - EVMS) (EDA, Survival Analysis, Biomarker Identification and Drug Prediction) (PyTorch, TensorFlow, Hugging Face Transformers, spaCy, Sklearn, Pandas, Numpy, Matplotlib, Seaborn, Plotly); (iii) Linguistic Analysis for Employee Survey Data (NLP, LiWC, WEKA, Neural Networks - R-CNN, BERT, Transformers) (iv) Intervention for Agitation in Alzheimer Patients using Wearable Technologies (Time Series Data Analysis, Event Prediction, Intervention Modalities).
- Jul 2022 – **Software Engineer at BetaNXT**, Refinitiv Beta Classic and Worldwide Wealth Services (WWS),  
Dec 2022 (JAVA, ESQL (Data transformation, message flows, RESTful APIs), Message flows, COBOL, IBM IIB, IBM WebSphere MQ).
- Sep 2020 – **Associate Software Engineer at London Stock Exchange Group (Refinitiv)**, Cloud Infras-  
Jun 2022 tructure and System Design, (Azure, VMWare, Shell Scripting, Networks and Security).

### Research Directions & Methods

Human-Centered Computing, Human-Computer Interaction, Accessibility and Usability, Social Computing, Accessible Learning Technologies, Data Visualization, Quantitative and Qualitative Study, Web Archiving, Eye tracking, Ubiquitous Computing and Wearable Technologies, Culturally Responsive Design

### Fellowships, Grants & Awards

- 2025 **Dr. Hussein Abdel-Wahab Memorial Graduate Fellow**, Old Dominion University (\$2500)
- 2025 **Best Paper Award**, ACM Web For All (W4A)
- 2024 **ISAB Research Scholarship**, Old Dominion University (\$1000)
- 2024 **CSGS Research Scholarship**, Old Dominion University (\$1000)
- 2023 **Dominion Scholar**, Old Dominion University (\$10000)
- 2023 **Best Research Mentor Award**, Old Dominion University (\$500)
- 2023 **Best Teaching Assistant Award**, Old Dominion University

## Community Services

**Reviewer:** CHI 2025, CSCW 2025, HAI 2025, IMWUT 2025, IUI 2025, UIST 2025, SIGCSE 2025

- 2025 **Student Exchange Research Mentor** (Hosted by Dr. Vikas Ashok), Old Dominion University
- 2024 **REU Research Mentor** (Hosted by Dr. Vikas Ashok), Old Dominion University
- 2024 **International Student Research Mentor** (Hosted by Prof. Ajay Gupta), Old Dominion University
- 2023 **Treasurer, Indian Student Association**, Old Dominion University

## Teaching Experiences & Invited Talks

- Jan 2024 – **Graduate Teaching Assistant**, CS121G – Information Literacy and Research Present
- 2025 **Invited Talk: Understanding Usability in Multimodal Documents: Case study of Hotel Menus**, Web Science and Digital Libraries (WS-DL) Expo, Old Dominion University, Invited by Dr. Michael Nelson
- May 2024 **Invited Talk: Accessibility and Usability of Web Archives**, Global Accessibility and Awareness Day (GAAD), Invited by Old Dominion University
- May 2024 **Guest Lecture: Natural Language Processing with Transformers**, ODU Data Science Bootcamp, Invited by Old Dominion University
- Jan 2024 – **Graduate Teaching Assistant**, CS733 - Natural Language Processing (NLP) May 2024
- 2023 **Invited Talk: Adapting to the US graduate education system**, Old Dominion University, Invited by Dr. Michele C Weigle
- 2023 **Invited Talk: Understanding EEG headsets with Emotiv**, Old Dominion University, Invited by Prof. Ajay Gupta

## Mentorship

- Aug 2025 **Fuka Ogawa**, Exchange Student, Old Dominion University
- Jun 2024 **Stefania Dzhaman**, REU Student, Old Dominion University
- Aug 2023 **Samhitha Holla**, Visiting Research Intern, Old Dominion University
- Aug 2023 **Varsha S Anand**, Visiting Research Intern, Old Dominion University
- Aug 2023 **Sanjana J Bharadwaj**, Visiting Research Intern, Old Dominion University

## Personal Interests

**Gaming (DOTA2 and RPG), Badminton, Cricket, Swimming, Reading, Cooking, Gardening**