

Nafis Ahmed

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EDUCATION

Vanderbilt University GPA: 3.8/4.0 (*cum laude*)
Major: Computer Engineering (B.E. Honors Program), Minor: Economics Graduation: May 2022

Selected Coursework: Data Structures, Operating Systems, Mobile and Wireless Networks, Embedded Systems, Intermediate Software Design, Web-based System Architecture, Computer Vision, Economics of Information and Communications Technology, Probability and Statistics

PROFESSIONAL EXPERIENCE

Bengal Mobile QA Solution Dhaka, Bangladesh
Product Manager, Jazzware January 2024 – Present

- Pioneered the conceptualization and execution of new cloud-based features tailored for the hospitality industry to enhance operational efficiency and elevate customer satisfaction by facilitating real-time monitoring and streamlined management of hotel activities.

Microsoft Redmond, USA
Product Manager, Foundational Identity & Access Management July 2022 – May 2023

- Spearheaded data-driven prioritization based on feedback from cross-functional stakeholders and reset team strategy to drive an organization-wide effort to migrate **15+** foundational Azure internal services to using OAuth 2.0 and OpenID Connect-based authentication from outdated protocols and platforms.
- Captured end-to-end customer scenarios and delivered features to guarantee business continuity for internal services while ensuring seamless migration to industry-standard protocols for enhanced security, resiliency, and efficiency.
- Investigated usage and configuration telemetry and identified gaps in threat hunting techniques for an internal cybersecurity incident. Developed an algorithm to put the required safeguards in place.
- Performed service privacy review to ensure compliance with GDPR.

Department of Computer Science, Vanderbilt University Nashville, USA
Teaching Assistant August 2019 – May 2022

- Held weekly office hours to assist students with course materials and graded assignments, quizzes, and exams for five semesters for the following courses:
 - **Digital Logic** (EECE 2116) – Fall 2019
 - **Programming and Problem Solving** (CS 1101) – Spring 2020, Fall 2021, Spring 2021
 - **Principles of Operating Systems I** (CS 3281) – Spring 2022

Unscrambl, Inc. Atlanta, USA
Software Engineering Intern May 2021 – November 2021

- Scraped websites to create customized large datasets on the sports and disaster relief management industries to configure, train, and test a conversational analytics bot (qbo) to interact in natural language with new clients and respond accurately to their queries.

RESEARCH EXPERIENCE

Neuroimaging & Brain Dynamics Lab (<https://www.cchanglab.net>) Nashville, USA
Undergraduate Research Assistant May 2019 – May 2022

- Analyzed how physiological signals impact neural activity to discover insights on human behavior and cognition from noisy fMRI big data under the supervision of **Dr. Catie Chang**.
- Contributed to developing methods to infer respiratory volume, heart rate, and alertness directly from fMRI dynamics to increase the efficacy of fMRI as a biomarker.

- Published a study at **eLife**, a conference paper at **Medical Image Computing and Computer Assisted Intervention – MICCAI 2021**, and a preprint of a manuscript.

PUBLICATIONS

- Bayrak, R. G., Hansen, C. B., Salas, J., **Ahmed, N.**, Lyu, I., Mather, M., Huo, Y., & Chang, C. (2023, February 7). Tracing peripheral physiology in low frequency fMRI dynamics. <https://doi.org/10.31219/osf.io/fj4gq>
- Bayrak, R. G., Hansen, C. B., Salas, J. A., **Ahmed, N.**, Lyu, I., Huo, Y., & Chang, C. (2021). From brain to body: Learning low-frequency respiration and cardiac signals from fMRI dynamics. In *Medical Image Computing and Computer Assisted Intervention–MICCAI 2021: 24th International Conference, Strasbourg, France, September 27–October 1, 2021, Proceedings, Part VII 24* (pp. 553-563). Springer International Publishing. http://dx.doi.org/10.1007/978-3-030-87234-2_52
- Goodale, S. E., **Ahmed, N.**, Zhao, C., de Zwart, J. A., Özbay, P. S., Picchioni, D., Duyn, J., Englot, D. J., Morgan, V. L., & Chang, C. (2021). fMRI-based detection of alertness predicts behavioral response variability. *eLife*, 10, e62376. <https://doi.org/10.7554/eLife.62376>

AWARDS AND RECOGNITION

Dean’s List – Vanderbilt University School of Engineering

- Achieved a **GPA of 3.5+ in seven semesters** (including all semesters of the last two academic years).

IEEE-Eta Kappa Nu (IEEE-HKN) Honor Society Member 2022

- Only top students chosen by the Department of Electrical and Computer Engineering faculty were inducted. Served as the Secretary of the Vanderbilt chapter.

Exceptional Abstract – Organization for Human Brain Mapping 2021

- Presented a **top 10 abstract** in the “Physiology, Metabolism and Neurotransmission” section.

Vanderbilt Institute for Surgery and Engineering (VISE) Summer Fellow 2019

- Received \$6,000 support to conduct neuroimaging research for 10 weeks under the supervision of Dr. Catie Chang at the Neuroimaging & Brain Dynamics Lab.

PROJECTS

Nissan Market Research Digitization Analytics | *Python, Tableau* | Senior Design Project

- Collaboration project with the Nissan Market Intelligence team to automate their brand health metrics visualizations based on customer survey data to make strategic decisions faster.

Klondike | *React.js, Node.js, MongoDB, Docker* | Course: Web-based System Architecture

- Full-fledged single-player online card game of Klondike (Solitaire).

Gradebook | *Java, Android Studio, Firebase, AWS EC2* | Course: Mobile & Wireless Networks

- Android app for students to keep track of their progress by receiving feedback on task prioritization and effective student-instructor communication to achieve their desired grades.

Empty Parking Spot Locator | *Python, ResNet, fastai, OpenCV, Colab* | Course: Computer Vision

- Deep learning approach to detect vacant spots from a stationary video feed of a parking lot.

Top Hat Helper | *Java, Azure AI Vision* | 1st place, MLH Local Hack Day (Vanderbilt) 2018

- A program for course instructors to identify false student attendance on Top Hat.

TECHNICAL SKILLS

Languages: C/C++, Java, Python, MATLAB, SQL, JavaScript, HTML/CSS

Tools: Git, Docker, Amazon Web Services, Microsoft Azure, VS Code, CLion, IntelliJ, PyCharm, WebStorm, Android Studio