Keshav Ganapathy

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Education

- **University of Maryland – College Park** GPA: 3.85
  B.S. in Computer Science & Applied Mathematics, Minor in Robotics and Autonomous Systems *Expected May 2024*
  - **Relevant Coursework:** Algorithms Design & Analysis, Organization of Programming Languages, Discrete Structures Honors, Data Structures, Object Oriented Programming, Calculus III, Differential Equations, Statistics, Linear Algebra
  - **Activities:** CMSC Departmental Honors, BigThinkAI (Advanced Project Lead), Ballroom Dancing
  - **Awards:** Academic Honors/Deans List, $10,000 AFCEA-CMD Merit Scholarship 2021., Simons Summer Research Program 2020 Admit (8% Acceptance), 2nd Place Best Health Tech Hack at DefHacks Virtual 2020 (Over 1200 attendees)

Skills

- **Languages:** Python, Java, HTML, CSS, C/C++/C#, JavaScript, MariaDB, MySQL, MATLAB, OCaml, Ruby, Rust, LaTeX
- **Frameworks:** React.js, Node.js, Springboot, Flask
- **Tools & Technologies:** Git, Postman, Docker, IBM SPSS, MS Office, G Suite

Work Experience

- **Cigna** Bloomfield, CT
  Software Engineer Intern, IntelliPA Development Team *May 2022 - Present*
  - Implemented and tested changes for IntelliPA, a platform that uses machine learning to predict prior authorization (PA) results. Contributions optimize the PA review process for faster, more accurate, and higher confidence PA decision-making.
  - Led a team of 10+ interns in the development of 4Sight, an internal web app that provides Cigna employees information on in-person attendance. 4Sight increases employee retention rate and promotes community amongst employees
- **Duke University** Durham, NC
  Researcher, Mentor: Brandon Knettel *May 2022 - Present*
  - Leveraged IBM SPSS to conduct thorough data cleaning on a dataset of ∼130 responses to vignette survey questions, enabling precise statistical analysis and improving the overall validity of the results.
- **Element Solutions** Washington, DC
  Software Engineering Intern *January 2022 - May 2022*
  - Created CityWorks, a user-friendly app that empowers citizens to easily request a wide range of social services using the latest technologies such as AWS, Springboot, React, and MariaDB.
- **University of Maryland REU-CAAR** College Park, MD
  Researcher, Mentor: Tom Goldstein *June 2020 - Aug 2020, June 2021 - Nov 2021*
  - Conducted a thorough simulation of the conference paper review process using a web-scraped dataset of over 8000+ papers and tools such as the OpenReview API and Selenium.
  - Utilized advanced statistical techniques including Monte Carlo simulations and logistical regressions to quantify bias.
  - Co-first-authored a highly impactful paper that was presented at the ICLR 2021 townhall and selected as a lightning talk at the NeurIPS 2020 Workshop on Navigating the Broader Impacts of AI Research. Papers and talks analyzed and quantified disparities in the review process based on factors such as gender, institutional affiliation, etc. The conclusions drawn promote a more inclusive and equitable review process.
- **Johns Hopkins Applied Physics Laboratory** Baltimore, MD
  Software Engineering Intern (Air and Missile Defense Sector), Mentor: Joshua McClellan *June 2020 – May 2021*
  - Developed and implemented a Kalman Filter for noise reduction, enabling the successful execution of confidential reinforcement learning scenarios research. The insights gained from this research were presented to try and secure renewed funding for the project.
- **iZen** Palo Alto, CA
  Software Engineer Intern *June 2019 - Aug 2019*
  - Spearheaded the development of scripts utilizing SSML, C#, and Google Cloud's Text to Speech AI, resulting in the creation of over 6 hours of educational content with professional-quality narration.

Projects

WebPoint Portfolio - WebPoint | *HTML*, *CSS*, *Pug*, *SCSS*, *JavaScript* | Organization Founder, Portfolio here
- Volunteer organization that created 5 websites for businesses/orgs in Ellicott City. Cumulative hundreds of page visits per week.
- Facilitated communication between clients and engineering team for timely, high-quality development of websites.
- Led the technical team in deciding and implementing the most appropriate development stack to meet the unique needs and goals of each client, resulting in successful project outcomes.

Harmony | *Svelte*, *WebRTC*, *Web Audio API*, *peaks.js*, *HTML*, *Pug*, *SCSS*, *JavaScript*| MIT Blueprint 2020
- Harmony is a web application that allows musicians a way to collaborate when not physically together.
- Features include creating/joining a room and recording/submitting audio with a metronome, etc. Audio is transferred from members to host via the Web Audio API, and visualized using Peaks.js

Publications & Preprints

- **Ganapathy, K.[1]**, Liu, E.[1], Zarger, Z.[1], Somepalli, G., Goldblum, M., & Goldstein, T. (2021). An Investigation into the Role of Author Demographics in ICLR Participation and Review.
- Tran, D.[1], Valtchanov, A.[1], **Ganapathy, K.[1]**, Feng, R.[1], Slud, E., Goldblum, M., & Goldstein, T. (2020). Analyzing the Machine Learning Conference Review Process. NeurIPS 2020 Workshop on Navigating the Broader Impacts of AI Research. arXiv preprint arXiv:2011.12919.
- **Ganapathy, K[1]**. (2020). A Study of Genetic Algorithms for Hyperparameter Optimization of Neural Networks in Machine Translation. arXiv preprint arXiv:2009.08928.