# Tarun Eswar

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## EDUCATION

**Washington University St. Louis (B.A. Applied Math + Computer Science)**       Expected YOG: 2027
*GPA: 4.0/4.0*
Relevant Coursework: Calculus III, Discrete Math, Introduction to Hardware Engineering, Algorithms

**Worcester Polytechnic Institute (High School Dual Enrollment)**       2023-2024
*GPA: 4.0/4.0 (Dean's List)*
Coursework: Object-Oriented Design, Systems Design, Calculus I-III, Applied Statistics

## EXPERIENCE

**Rakuten Group, Inc**       **Remote**
*Software Engineering Intern/Trainee*       Jul 2023 | Aug 2023
- Co-developed a QA chatbot (LLMs) to answer company legal questions (95% coverage) with Tiger Team and used quantization methods to optimize Llama2 and Vicuna and store embeddings in a ChromaDB vector.
- Achieved accurate results with response of ~2.5 seconds (12GB GPU tunneling) and created Django QA model API (Express) with dashboard (React) and JWT / Rakuten legal recommendations to protect documents.
- Contributed KPI UI feature components for a production B2B product (Cognitive AIOps) on a three-stage testing workflow with proprietary component libraries. Worked with Redux, Typescript, and Vue framework.

**Rakuten Group, Inc**       **Remote**
*Software Engineering Intern/Trainee*       Jun 2022 | Aug 2022
- Developed on the initial data observability platform (SixthSense) with Vue.js, Node.js, and Elastic Cloud.
- Optimized the capabilities for local test acceleration and incident management of the web application.
- Mastered Bitbucket, JIRA, scrum workflow, and proprietary component library with junior developers.

**Tufts Financial Group**       **Medford, MA**
*Contract Developer*       Sep 2022 | Jan 2023
- Collaborated with club executives to revamp web app and SEO capabilities for the 50+ member club.
- Improved page interactions by 10% and created a more accessible layout and UX for all audiences.
- Managed minor budget of $1000 provided by the team for various improvement tasks on the web application.

**AiDa Technologies**       **Remote**
*Machine Learning Intern*       Jul 2022 | Dec 2022
- Pre-processed client and insurance claim data with Python (Jupyter NB, Pandas) processing techniques.
- Contributed to three different datasets to normalize and prune thousands of client data for ML models.

## VOLUNTEERING

**Independent Community Service Project**       **Boston, MA**
*Founder*       Jun 2021 | Dec 2021
- Provided complimentary web services for 8 local businesses suffering from COVID-19 shutdowns.
- Interviewed by Diane Cho on NBC Boston April 7, 2022, for exceptional community service (100+ hours).

## RESEARCH / PROJECTS

**Digital Sign-in/out System | GitHub**       Oct 2022 | May 2024
- Developed an end-to end sign-in/out system using MySQL, Raspi, and React/Node.Js/Express.js.
- Integrated with 100+ students/admin and used as a production app (access restricted) at MA Academy.

**"Dimensionally reduced model for predicting octanol-water partition coeff." | WPI**   Feb 2023 | August 2023
- Collaborated with the WPI Dynamics Lab to provide a user-friendly application component for a novel machine learning application published in the *Journal of Cheminformatics*.

**Modeling T1 Resting-State MRI Variants in OCD Patients | GitHub | Paper**       Aug 2022 | Feb 2023
- Researched and developed novel neural networks (published) with strong levels of accuracy to determine the casual factor in OCD. Used TensorFlow, ResNet50, heatmap matrices, and deployment technologies.

## CERTIFICATES / AWARDS

**2024 GoatHacks (HackWPI) - Winning Team (Placed 1st/50+ teams)**       Feb. 2024
**State of Massachusetts - Seal of Biliteracy in English and Japanese**       Jan. 2024
**Purple Comet International Math Meet – Honorable Mention (27th / 1100 participants)**       May, 2023

## SKILLS

**Languages:** English (Native Proficiency), Tamil (Conversational), Japanese (Intermediate), and Spanish (Elementary)
**Programming:** Python, PHP, Java, HTML/CSS, JavaScript/Typescript, Swift, MySQL, MongoDB, ElasticDB
**Libraries:** Pandas, PyTorch, NumPy, TensorFlow, Sci-kit Learn, React Bootstrap, AntDesign, MUI, Tailwind
**Frameworks:** Vue.js, React.js, Next.js, Node.js, Flutter
**Interests:** cooking, 365toJapan, pickup basketball, Adele