IRIS GUPTA

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Johns Hopkins University

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EDUCATION

Johns Hopkins University | Pre-Law, B.S. in Computer Science and Economics, expected 2025

Montgomery Blair High School Magnet Program | 4.85 wGPA, graduated 2021

TECHNICAL SKILLS

Languages | Java, Python, C, C++, CSS, HTML, JavaScript, Arduino, Lisp, Linux

Software | Next JS, React JS, Figma, R, MatLab, TensorFlow, PyTorch, Photoshop, Autodesk Sketchbook, Blender

Skills | Artificial Intelligence, Human-AI Interaction, UX Design, Machine Learning, Graph Theory, Cryptography, Image Processing, Graphic Design

WORK EXPERIENCE

ARCADE Lab at Johns Hopkins University | Research Intern   March 2022 - Present

  Project: Developing a framework for improving human-AI collaboration in high knowledge imbalance scenarios

- Trained and tested an ML-based image classification algorithm using **PyTorch**
- Designed and deployed a user interface for human-AI interaction using **Next JS, React JS, CSS** and **Figma**

  Project: Detecting high cognitive load during surgery and recommending intervention strategies

- Calibrated **eye-tracking technology** to detect pupil dilation due to high cognitive load

Maryland Office of the Public Defender Baltimore Juvenile Division | Intern   Summer 2022

  Government agency committed to providing equitable defense

- **1 of 4 undergraduate students** selected to investigate cases, draft legal documents, and observe hearings

Gala Lab at Harvard Medical School | Research Intern   May 2020 – Mar. 2021

  Project: Low polygenic risk scores (PRS) among cancer patients inform the presence of hereditary cancer syndromes

- Imputed and analyzed genotype data to calculate PRS using **MatLab** and **Python**
- Scrubbed **563 patient genomes** for rare pathogenic variants using **IGV software**
- Awarded **Honorable Mention in Computer Science** at the **Montgomery County Science Fair**

Jain Lab at the MIT Whitehead Institute | Research Intern   Summer 2019

  Project: Investigated the role of a modified base in phase separation in dinoflagellate DNA

- Conducted **modified PCR, gel electrophoresis, restriction digest, spectroscopic analysis, melt curve analysis**
- **Only high-school student** accepted into the lab

Beyond Resolved Maryland | Secretary Chapter Head   June 2020 – June 2021

  Non-Profit Organization dedicated to advocating for all marginalized groups in speech and debate

- Coordinated with **over 450 high schools** for fundraising events and chapter initiatives

Montgomery County Circuit Court | Teen Court Volunteer   Summer 2018

Program dedicated to allowing juvenile offenders to rehabilitate without a criminal record
- Devised rehabilitation strategies and service opportunities for **several juvenile cases**

PROJECTS

Argumentative Paper | Author   Sep.2021-Mar. 2022
- Wrote an **article** calling for the U.S. government to declare "no-first-use" of nuclear weapons
- Published paper on **idealtogether.org**

Independent Research Project | Co-author of working paper   Sep. 2021 – Present
   Project: Developing a framework for 5G firms in emerging economies to strategize market entry
- Conducted a literature review of **over 50 Industry Reports** and **Academic Research Papers**
- Presented at the **Mid-Atlantic Undergraduate Social Research Conference** in April 2022

Independent Research Project   Sep. 2018 – Mar. 2019
   Project: Predicting asthma exacerbation using statistical analysis
- Used biological markers of asthma patients to predict exacerbation risk using **R**
- Awarded **Honorable Mention in Mathematics** at the **Montgomery County Science Fair** and **3rd Place** by the **Washington Statistical Society**

Independent Research Project   Aug. 2014-Mar. 2016
   Project: Designed a drug proposal for using nanoparticles to stop allergies at the source
- Awarded **Top 10 National Finalist** at **Discovery Education and 3M's Young Scientist Challenge** and **3rd Runner-Up amongst top 10 finalists**
- Awarded **1st Place in Maryland** at the Young Scientist Challenge
- Awarded **Best Female Scientist (x2)** and **3rd Place in Biological Sciences** at the **Montgomery County Science Fair,** awarded **2nd Place** by the **Friends of Agriculture Research,** and awarded **Honorable Mention** by the **Aerospace Corporation Community**

LEADERSHIP EXPERIENCE

Student Government Association | Freshman & Sophomore Class Senator   March 2022 - Present
- Served on the Finance and Student Services Committees

IDEAL | Head of Education   Sep. 2021 - Present
Non-Profit Organization dedicated to changing the way students think about politics and interact with each other
- Co-hosted a journalist from the Jerusalem Post at a speaker event

HopHacks | Logistics and Sponsorship Organizer   January 2022 – Present
MedHacks | Promotion and Website Design Developer   April 2022 – Present
- Designed website graphics using **Autodesk Sketchbook and Photoshop** and created layout mockups using **Figma**