Mark Raj

mark.j.raj@vanderbilt.edu | (502) 500-5745
markjraj.com | [GitHub](#) | [LinkedIn](#)

EDUCATION

Vanderbilt University   Nashville, TN
Bachelor of Arts Computer Science & Economics; Mathematics Minor; GPA: 3.87/4.00, Cornelius Vanderbilt Scholar   *May 2023*
Relevant Coursework: Data Structures, Digital Systems, Intermediate Software Design, Statistics, Econometrics

---

WORK EXPERIENCE

Vanderbilt Data Science Institute   Nashville, TN
Undergraduate Research Assistant   *August 2020 – Present*
- Assist in Scrum management for machine learning projects and participate in weekly project review and planning meetings
- Attended 3 workshops on GitHub Flow, GitHub Projects, and Keras as a DSI Trainee specializing in Project Management

HiveDesk – *Project Management SaaS Startup*   Louisville, KY
Product Management Intern   *July 2020 – August 2020*
- Lead design and India development teams to implement 100+ UI/UX upgrades for Version 4.0 of our web portal, including prototyping 30+ screens in **Figma**, receiving feedback at daily design reviews, debugging, responsiveness testing, and launch
- Classified 200+ customer support tickets, identifying key product weaknesses and designing commonly requested features
- Mentored development interns, designing 3 **React** learning projects and monitoring progress through weekly check-ins

Software Engineering Intern   *March 2020 – July 2020*
- Completed full development process for v7.0 of our **Electron**-based desktop application, including prototyping in Figma, developing new task management features, upgrading to a modern UI, testing, and launching internally for stakeholder review
- Built **React Native** front-end for a future iOS/Android mobile app with cross-platform integration and mobile time tracking
- Created an ROI Calculator using **NodeJS** and deployed on **Heroku**, increasing marketing presence and customer acquisitions

Vanderbilt Research on Conflict and Collective Action Lab   Nashville, TN
Undergraduate Research Assistant   *November 2019 – May 2020*
- Analyzed representation of Syrian refugees in Tennessee media using **R**, linking economic factors with refugee acceptance
- Built a corpus of 100,000 articles by scraping ProQuest's database and data wrangling the raw text into **R**-compatible files
- Compiled 15 years of House and Senate budget data and isolated the effects of presidential appointees on military spending

---

PROJECTS

- **Plataforma Impact (React/MongoDB; *Social Impact Consulting Club*)** - Lead creation of a portal to connect graduates of Plataforma's web development training in Brazil with US firms. Prototyped functionality using Adobe XD and developed MVP.
- **Rollback (C++; *Independent*)** – Designed binary tree-like data structure to represent sequential games found in game theory. Recursively solves for dominant strategies using backtracking and able to support unlimited players and any size payoff matrix.
- **Post-its (React; *Independent*)** – Developed auto-scaling, draggable Post-It notes using React DnD with custom Card React tags
- **Pricing Slider (React; *HiveDesk*)** – Created custom slider for pricing page of HiveDesk to ease price comparisons across tiers

---

LEADERSHIP & ACTIVITIES

Vanderbilt University Computer Science Department   Nashville, TN
Teaching Assistant   *January 2021 – Present*
- Grade weekly programing assignments and hold office hours for 200+ students enrolled in CS 1104 (Introduction to Python)

Code Ignite – *Google-Sponsored CS Education Program*   Nashville, TN
Scratch Curriculum Coordinator   *September 2020 – Present*
- Lead development of 12-week Scratch curriculum to teach 50 middle school students elementary CS concepts (loops, abstraction)
- Designed worksheets, classroom demonstrations, and activities for students to create their own 2-D platforming game in Scratch

Vanderbilt Student Government   Nashville, TN
Economic Inclusivity Committee Member   *September 2020 – Present*
- Created First-Year Financial Resource Guide to provide a primer for 1600 freshmen on subsidies for research, meals, and clubs
- Revamped access to financial resources by consolidating and simplifying how to obtain resources on VSG's website

Additional Activities: Vandy Hacks, Vandy Apps, Vandy Raas - Indian Dance Team (Finance Chair), Vanderbilt Debate Team

---

SKILLS

Programming Languages: Java (2 years), MATLAB (2 years), C++ (1 year), JavaScript (1 year), R (1 year)
Languages & Technical Skills: Project Management, Team Management, Figma, Excel, Spanish (Fluent)