JOHN NG

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Education

University of Maryland — **Aug. 2023 – Present**
Bachelor of Science in Computer Science, Minor in Secondary Education — *College Park, Maryland*

Relevant Coursework

- Data Structures
- Discrete Structures
- Algorithms
- Computer Systems
- Handheld Systems
- Machine Learning
- Data Science
- Game Programming

Experience

Capital Technology Group — **June 2025 – August 2025**
Software Engineer Intern — *Remote*

- Architect and develop a scalable JSON REST API using Java to serve processed geospatial data to an interactive 3D front-end application.
- Construct ETL pipelines in Python to ingest, clean, and merge data from multiple public sources.
- Collaborate within an Agile framework with a cross-functional team to define API contracts, troubleshoot integration, and deliver a final MVP.
- Utilize Git/Github for version control and contribute to technical decisions regarding back-end architecture and data processing strategies.

Nobel Explorers — **February 2022 – September 2012**
Facilitator — *Remote*

- Managed the rollout of a technology education initiative to Ukraine and Taiwan.
- Taught 3 cohorts of 20+ international students covering machine learning, computer vision, and internet connectivity basics.
- Collaborated with a mentor to design dynamic and thought-provoking presentations.

Projects

Stock Simulator | *Python, Flask, SQL, React.JS, HTML, CSS* — **December 2024**

- Collaborated with a teammate to develop a web-based stock market simulator using Python Flask and yFinance, allowing users to trade with virtual money and real-time market data.
- Designed a SQLite-backed system to manage user accounts, portfolios, and historical performance tracking across multiple dates.

Terp Rater Chrome Extension | *Javascript, HTML, CSS* — **August 2024**

- Developed a 4+ star Chrome extension streamlining the course registration process for 25+ users.
- Enhanced UMD's course directory by integrating additional insights for its courses, including GPA, availability, and professor ratings.
- Leveraged UMD's Schedule of Classes and PlanetTerp's API to dynamically fetch and display up-to-date information on course ratings, instructor reviews, and available seats.

UMD Course Graph | *Java, GraphStream, GoogleGson* — **December 2023**

- Developed a Java-based system that integrated web scraping and API calls to collect and format UMD course data into a structured, analyzable format.
- Implemented a graph data structure using GraphStream to model course relationships, with over 2000 nodes representing courses and edges denoting prerequisites, corequisites, and other dependencies

Technical Skills

Languages: Python, Java, C, C#, HTML/CSS, OCaml, JavaScript, SQL
Developer Tools: VS Code, Eclipse, IntelliJ IDEA, Maven, Jest, JUnit
Technologies/Frameworks: GitHub, React.js, Flask, PyTorch, Pandas, NumPy, Google Gson, RESTful APIs

Leadership / Extracurricular

Chinese Student Association — **Spring 2025 – Present**
Auxiliary Officer Representative — *University of Maryland, College Park*

- Manage and oversee a cohort of 20-25 Auxiliary Officers (AOs) for the Chinese Student Association (CSA), leading the annual recruitment cycle including application review and selection.
- Cultivate leadership skills and enhance engagement among AOs by empowering teams to independently plan and execute 3 dedicated AO-led events, directly preparing them for future Executive Board roles.
- Facilitate weekly AO meetings focused on coordinating roles and preparing resources for high-profile CSA events, including those attracting up to 400 attendees (e.g., Lunar Banquet, Chinatown Cafe).