

Rajat Nepal

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EXPERIENCE

Capital One

Chicago, IL

Data Engineer

August 2024 – Present

- Currently leading Card Data's ETL pipeline migration from a serverless architecture using Python, Spark, AWS Glue, and Airflow to a Databricks Operational (dbx) environment using Photon engine (C++ rather than Python)
- Optimized datasets of ~100 million items and ~2,000 attributes stored in DynamoDB, S3, and Capital One's internal data lake based on Snowflake used for marketing campaigns across the enterprise with a combined NPV of \$780M+
- Developed an API using FastAPI within an AWS Lambda, handling ~10 million calls from Capital One Shopping
- Planned multiple social and volunteer events as the Fun and Services Committee Lead of Capital One's Technology Development Program

WashU DevSTAC

Remote

Lead Software Engineer

October 2023 – September 2024

- Acted as a liaison between WashU and renowned clients such as Moelis's Catalyst Partners to create custom databases and analytic dashboards using Python, Flask, TypeScript, AWS RDS, PostgreSQL, and Tableau
- Led a team of 5 student engineers to provide mobile app development, full stack web development, graphic design, and data analytics services to both internal and external clients, brought in over \$50,000 revenue from 9 clients' projects
- Developed various mobile applications for the WashU Medicine in React Native including an app for interpreting complete blood count (CBC) test results and an app simplifying acute ischemic stroke decision-making

Capital One

Chicago, IL

Software Engineer Intern

June 2023 – August 2023

- Designed a full stack application using Vue.js, Node.js, DynamoDB, AWS Lambda architecture, and custom APIs
- Implemented patented technology to customize configurations in Amazon's Simple Queue Service, resulting in a 19.7% decrease in operations wait times and a 26.4% increase in efficiency for the Capital One Call Center
- Enhanced the customer service experience by accurately matching over 950,000 daily customers' problems with the 800+ specialized skills of Capital One's 35,000+ call center agents

Dost AI

Barcelona, Spain

Consultant

August 2022 – December 2022

- Helped Dost AI -- a Barcelona-based, B-Combinator funded, financial documents processing start up--successfully enter the US market. The company went from 3 employees when we provided consulting services to 50+ now
- Worked directly with the CEO and the CTO to develop quantitative marketing strategies in emerging markets and industries
- Collaborated with an agile team of 2 software developers, Olin MBACandidates, WashU Law Candidates, and McKelvey Engineering Masters' Candidates as a part of Olin Business School's Center for Experiential Learning (CEL)

United States Federal Reserve

Remote

Software Developer and Product Manager Intern

June 2022 – December 2022

- Developed new features on 5 mobile/web/low-code applications in React Native, C#, .NET, and SQL for the Application Development and Technology Office of the Fed's Banking Supervision and Regulation Group
- Worked on the Executive Contact System (ECS) which contacts executives of every bank in the US with updates from the Federal Reserve regarding interest rate changes, policy changes, etc
- Managed a cross-functional team of interns for the Fed's Business Interdisciplinary Event (BIE), resulting in the implementation of a comprehensive feedback system for Econ Lowdown, an award-winning economic education website

SKILLS & PROJECTS

- **Languages:** Python, SQL, C/C++, Java, JavaScript, TypeScript, HTML/CSS, C#
- **Frameworks/Libraries:** PySpark, Pandas, NumPy, PyTest, Vue.js, Node.js, Django, Flask, Maven, Spring Boot, .NET,
- **Databases:** MySQL, PostgreSQL, MongoDB, DynamoDB, AWS RDS, Snowflake, Microsoft SQL Server
- **Developer Tools:** Databricks, AWS (Lambda, Glue, EMR, Simple Storage Service (S3), CloudWatch, etc.) Git, Docker, Kubernetes, Kafka, Spark, Azure, Jira, Confluence
- **Personal Projects:** github.com/RajatNepal

EDUCATION

Washington University in St. Louis

St. Louis, MO

Bachelor of Science in Business and Computer Science, Focus in Business Analytics

December 2023

GPA: 4.00 | Valedictorian | Graduation Student Speaker