

William Newman

<https://github.com/herringlearry2>

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EDUCATION

- **Macaulay Honors College at CUNY City College**

B.S. in Computer Science; GPA: 3.5

New York, NY

Graduated December 2019

EXPERIENCE

- **Cambly**

Software Engineer

San Francisco, CA

Feb 2020 – November 2024

- **Tutor Payments:** Led team of 5 engineers to create a formal payment ledger system for tutors on the platform that is now responsible for keeping track of \$50+ million a year in money owed to our tutors. This laid the groundwork for the company-wide initiative to create new features that enabled us to pay our tutors more: a premium IELTS-focused product, reimbursement for outages.
- **Anytime Minutes:** Led team of 5+ engineers to create a formal credit system for anytime minutes for students on our platform where formerly it was just a number on the student's user object. The most immediate payoff of this project was that it allowed us to add an expiration date to 10+ million minutes that existed on our platform as a debt owed to our students. It also laid the groundwork for a number of features on our roadmap: anytime minutes upsell if student was short minutes for a lesson, a minutes-focused plan for our IELTS-focused product.
- **Navbar:** Led project to overhaul the web application's navbar (messaging, notifications, links) for a company-wide rebranding initiative. As part of this project I created a version of the new navbar that was compatible with our new NextJS version of the web app which then unblocked NextJS development for core pages on our web app. All of this was delivered on a tight deadline.

- **Coursera**

Senior Software Engineer

Mountain View, CA

Jan 2014 – Oct 2016

- **Notifications:** Service for sending email, push and in-app notifications. Involved in features such as delivery time optimization, tracking, queuing and A/B testing. Built an internal app to run batch campaigns for marketing etc.
- **Nostos:** Bulk data processing and injection service from Hadoop to Cassandra and provides a thin REST layer on top for serving offline computed data online.
- **Workflows:** Dataduct an open source workflow framework to create and manage data pipelines leveraging reusable patterns to expedite developer productivity.
- **Data Collection:** Designed the internal survey and crowdsourcing platform which allowed for creating various tasks for crowdsourcing or embedding surveys across the Coursera platform.
- **Dev Environment:** Analytics environment based on Docker and AWS, standardized the Python and R dependencies. Wrote the core libraries that are shared by all data scientists.
- **Data Warehousing:** Setup, schema design and management of Amazon Redshift. Built an internal app for access to the data using a web interface. Dataduct integration for daily ETL injection into Redshift.
- **Recommendations:** Core service for all recommendation systems at Coursera, currently used on the homepage and throughout the content discovery process. Worked on both offline training and online serving.
- **Content Discovery:** Improved content discovery by building a new onboarding experience on coursera. Used this to personalize the search and browse experience. Also worked on ranking and indexing improvements.
- **Course Dashboards:** Instructor dashboards and learner surveying tools, which helped instructors run their class better by providing data on Assignments and Learner Activity.

- **Lucena Research**

Data Scientist

Atlanta, GA

Summer 2012 and 2013

- **Portfolio Management:** Created models for portfolio hedging, portfolio optimization and price forecasting. Also created a strategy backtesting engine used for simulating and backtesting strategies.
- **QuantDesk:** Python backend for a web application used by hedge fund managers for portfolio management.

- **Georgia Institute of Technology**

Research and Teaching Assistant

Atlanta, GA

Jan 2012 – Dec 2013

- **Research Assistant – Machine Learning:** Research on machine learning for portfolio hedging and replication algorithms. Modeling low-risk & continuous-return strategies. Developed the Python library QSTK.
- **Teaching Assistant – Computational Investing:** The online course on Coursera, had more than 100,000 students enrolled. It was featured on the 11 Alive News and the Atlanta Journal Constitution. Involved in creating assignment, exams and conducting recitation sessions. Also taught the on-campus version of the course.

PROJECTS

- **QuantSoftware Toolkit:** Open source Python library for financial data analysis and machine learning for finance.
- **GitHub Visualization:** Data visualization of Git log data using D3 to analyze project trends over time.
- **Recommendation System:** Music and movie recommender systems using collaborative filtering on public datasets.
- **Mac Setup:** Book that gives step-by-step instructions on setting up developer environment on macOS.