

Madeline Briere

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EDUCATION

DUKE UNIVERSITY

BSE IN ELECTRICAL & COMPUTER ENGINEERING

BS IN COMPUTER SCIENCE

Dean's List (All Semesters)

May 2019 | Durham, NC

GPA: 4.0 / 4.0 (1st in class)

OXFORD UNIVERSITY

SCIENCE, ETHICS & SOCIETY

SUMMER PROGRAM

Summer 2016 | Oxford, England

SKILLS

TOPICS

Software Design & Development

Ranking Infrastructure

Information Retrieval & SEO

Data Structures & Algorithms

Machine Learning

Computer Architecture • Signal Processing
Computer Security • Operating Systems
Microelectronic Devices • Automated Trading
NLP • Psychology • Linguistics • Genetics

LANGUAGES

Java • C++/C • Python • Bash • SQL
MATLAB • HTML • CSS • JS • \LaTeX
Arduino • XML • MIPS

SOFTWARE/TOOLS

jUnit & jMock • Tensorflow • Flume
Borg • Git • Boq • AWS • Jenkins
Spring • Angular • Docker • Maven
PreForm • MakerBot • CAD

OUTREACH

CURRENT

Dog Training Assistant at SPCA/PHS

DTech Alumni Vice President

DTech BUILD Coach

DTech Scholar & Mentor

Duke Alumni Interviewer

Google gMentor & Intern Host

Google TechX Project Coach

COLLEGIATE

Girls Engineering Change (Exec)

Animal Welfare Society (PAWS)

LINKS

Github:// [madelinebriere](#)

LinkedIn:// [madelinebriere](#)

EXPERIENCE

GOOGLE in Mountain View, CA

Senior Software Engineer | November 2022 - Present

- Reduced low-quality content by almost 5% in vulnerable Search queries
- Built monitoring for top 80% of Search signals, averting several global outages
- Acting as owner of internal Search debug (used daily by 1200+ engineers)
- Serving community by creating "How Search Ranking Works" resources, teaching the "Intro to Ranking" course, and conducting technical interviews

Software Engineer III | September 2020 - November 2022

- Optimized ranking systems, saving 40+ SWE-years/year in latency to date
- Crafted (and now maintain) an ML model of document relevance, used by ~15 teams and directly in web ranking, improving over 10 billion searches daily

Software Engineer II | September 2019 - September 2020

- On the Search Ranking Infrastructure team, landed two high-impact, senior-level projects, including a rewrite of debug for search experiments (~1500 users/week) and a cache fix that saved 20+ SWE-years/year in latency

Software Engineering Intern | May 2018 - Aug 2018

- On the Travel User State team, redesigned the outdated backend representation of travel-related events (bookings, web searches, etc.) and mitigated erroneous travel pipeline data loss affecting over 1 billion users

FITCH & CO. at Duke University, NC & MIT, MA

Software Engineer | Spring 2018 - Spring 2019

- Co-founded an automated trading startup alongside 7 specialists, seeking to develop a novel approach to trading using interchangeable algorithmic strategy
- Developed a robust API capable of handling trading requests sent via the strategy component of the system (award-winning design; see [here](#))

MARVIN AI SYSTEMS LLC at Duke University, NC & MIT, MA

Signal Processing Specialist | Spring 2017 - Spring 2020

- Supported a voice-based computing startup, a focused competitor to Amazon's Alexa targeting high accuracy for a smaller state-space of communications
- Formulated the system's novel software neural network toolkit (see [here](#))

DUKE COMPUTER SCIENCE DEPARTMENT at Duke University, NC

Teaching Assistant | Fall 2016 - Spring 2019

- Selected as one of the first female Teaching Assistants in Software Design & Implementation after one year teaching Data Structures & Algorithms
- Mentored ~5 students in biweekly code reviews to foster good coding habits

AWARDS

2023	1/16	Google's Doc Champion for Search Quality Documentation
2022	1/30	Google's Gold Perfy Award for Latency Savings
2019	1/6	Graduating with Departmental Distinction
2019	1st/2k	Charles Ernest Seagle Memorial Award
2019	1st/2k	Walter J Seeley Scholastic Award
2019	Exec	Tau Beta Pi Honor Society (see here)
2018	1st/30	ECE Independent Study Poster Session (see here)
2017	1st/30	Zuora Q2 Hack-a-Thon (intern-only team; see here)
2015	1/50	Angier B. Duke Merit Scholar (full academic support; see here)