Gautam **Mittal**

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EDUCATION

UC BERKELEY
B.S. Electrical Engineering &
Computer Science (EECS)
Expected May 2022 | Berkeley, CA
GPA: 3.85 / 4.0

Regents' and Chancellor's Scholar
Accel Scholar
Kleiner Perkins Engineering Fellow
Eta Kappa Nu (EECS Honor Society)
Cal Hacks, UC Jazz, Statistics
Undergraduate Student Association

SKILLS

LANGUAGES
Python • JavaScript • Swift • Java • C
SQL • Scheme • Ruby • RISC-V •
Objective-C

TOOLS
PyTorch • JAX/Flax • TensorFlow
NumPy • Node.js • Flask • Rails • HTML
CSS • React • Max/MSP • AWS • GCP
UNIX • Git • MongoDB • PostgreSQL

LINKS

GitHub: **github.com/gmittal**
LinkedIn: **linkedin.com/in/mittalgautam**
Website: **gautammittal.com**

COURSEWORK

CS61B: Data Structures
CS61C: Computer Architecture
CS70: Discrete Math & Probability
CS170: Algorithms & Intractability
CS161: Computer Security*
CS162: Operating Systems
CS186: Database Systems
CS188: Artificial Intelligence
CS189: Machine Learning*
EECS16A: Linear Algebra & Circuits
EECS16B: Diff. Equations & Devices
EECS126: Random Processes
MATH53: Multivariable Calculus
CS195: Social Implications of
Computing

* in progress

EXPERIENCE

RISELAB, UC BERKELEY | Undergraduate Researcher
September 2019 – Present | Berkeley, CA
- Researching deep reinforcement and unsupervised learning for databases
- Co-implemented system for training a relational query optimizer without imitation learning and experimented with VAEs and feature perturbation techniques to improve learned representations
- Co-authored conference paper (under peer review) on learned query optimization and presented work at RISE Retreat (2020, 2021)

GOOGLE | Research Intern, Google Brain
May 2020 – January 2021 | Mountain View, CA
- Researched deep energy-, score-, and diffusion-based generative models for symbolic music generation under the Magenta team
- Designed two-stage non-autoregressive model for unconditional generation and gradient-based sampling for post-hoc infilling
- Implemented and evaluated Transformer-based models, fast sampling mechanisms, and MusicVAE data pipelines with JAX, Flax, and TensorFlow
- Co-authored conference paper (under peer review)

STRIPE | Software Engineering Intern
May 2019 – August 2019 | San Francisco, CA
- Built an end-to-end data export pipeline for Connect, used daily by Lyft, DoorDash, and others to process millions of financial objects
- Refactored export infrastructure to use a concurrent GraphQL resolver to enable API-consistent data, faster exports, and increased security
- Designed and tested data infrastructure using Ruby, Elasticsearch, & MongoDB; worked on Stripe Dashboard front-end with React

PROJECTS

FEVERBASE | Founding Engineer | feverbase.org
March 2020 – July 2020 | Python, Flask, MongoDB
- An open platform for COVID-related clinical trial data connecting researchers, patients, and the public to relevant information for drug discovery and trial participation; Source code: **github.com/feverbase**

COPILOT | Executive Director
June 2016 – June 2018 | JavaScript, Node.js, Firebase
- Designed and implemented an online, anonymous peer-to-peer mental health counseling platform; Source code: **github.com/projectcopilot**

AWARDS

2020	Contrary Talent Fellow (inaugural cohort)
2019	IEEE Eta Kappa Nu Member (top 25% of Berkeley EECS)
2019	Accel Scholar (run by Accel Partners & Berkeley EECS)
2019	Kleiner Perkins Engineering Fellow
2018	Regents' and Chancellor's Scholarship (top 2% of incoming class)
2018	US Marine Corps & Louis Armstrong Jazz Awards
2016	MIT Zero Robotics Challenge International Finalist
2015	Top 10 at MHacks, PennApps (international hackathons)
2015	Apple WWDC Scholarship