

ARPANDEEP KHATUA

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EDUCATION

University of Illinois at Urbana-Champaign

August 2019 - May 2023

Bachelor of Science, Computer Engineering (Minor, Mathematics)

GPA – 4.00/4.00

- **Coursework:** Natural Language Processing, Artificial Intelligence, Machine Learning, Deep Learning, Algorithms, Parallel Prog., Data Struct., Discrete Struct., Database Systems, Computer Sys Prog., Number Theory.
- **Senior Thesis:** *Generating Large Real World and Synthetic Graph Datasets for Graph Neural Network Applications.*

EXPERIENCE

Meta Inc.

May 2022 - Aug 2022

Software Engineering Intern (Live Video Community), Manager - Mr. Gabe Ochoa

New York, NY

- Created infinite scroll comments, polls, and overview tab resulting in a sig-stat increase in overall FB watch time and number of watched videos based on A/B testing over 200+ million users. Received highest intern rating of *greatly exceeds expectation (GE)*.
- Simplified E2E testing framework and documentation for internal languages used by 50+ teams.

Facebook Inc.

May 2021 - Aug 2021

Software Engineering Intern (Commerce Shop Rankings), Manager - Mr. Artem Zinchenko

Menlo Park, CA

- Built a product retrieval transformer model personalized to users based on their history and viewing habits with a 35% win over the previous model and 30% increase in A/B testing over 30 million users.
- Optimized data collection pipeline by 60× which will enable the team to run the pipeline in real-time.

FORWARD Data Lab 🌐

Jan 2022 - Present

Undergraduate Researcher, Advisor - Prof. Kevin Chen-Chuan Chang

Champaign, IL

- Normalizing Wikipedia article structures based on related categories and sub-topic.
- Created a data-driven search engine with ranking and retrieval models to scrape the web and create dynamic subtopic-based summarized search results with 97% classification accuracy.

IMPACT Lab 🌐

Sep 2021 - Present

IBM-Illinois C3SR Scholar, Advisor - Prof. Wen-Mei Hwu, Dr. Vikram Sharma

Champaign, IL

- Biggest academia dataset ever created to test emerging GNN models at scale.
- Generating a 260 million node homogeneous graph dataset with 4 billion edges with over 220 million labeled nodes (162× current largest dataset) for a node classification task.

National Center for Supercomputing Applications (NCSA) 🌐

Oct 2021 - May 2022

Software Engineering and SPIN Intern, Advisor - Dr. Stephen Downie, Dr. Boris Capitanu

Champaign, IL

- Modified detectron2 segmentation model to classify and tag pages in the HathiTrust Digital Library in 5 major classes and 1000 image classes with over 95% accuracy.

PROJECTS

Kaizen </> - HackDuke Winner

Dec 2020

- Built NLP model to classify text on mental health conditions and web page with OCR and voice-to-text feature.

CourseLoop </> - HackThis Winner

Aug 2020

- Auto-grading text extracted from PDF assignments with an OCR pipeline, using NLP with 98%+ accuracy.

TECHNICAL TOOLS, LEADERSHIP, HONORS & TEACHING

Tools: *Very Knowledgeable:* React, Hack/PHP, GraphQL, Python, C++, C, SQL • *Knowledgeable:* HTML, CSS, JavaScript, Django, Flask, Python Data/ML Libraries.

Leadership: ECE PULSE Corporate Committee • HKN Honor Society Secretary & Corporate Director • Promoting Undergraduate Research in Engineering (PURE) Vice President & Corporate Director.

Awards: O. Thomas and Martha S. Purl Scholarship (awarded to 2 students out of 2000 every year) • Grainger Engineering Scholar • NCSA Student Pushing Innovation Fellow • C3SR-URAI Scholar • Illinois Geometry Lab Scholar (×2) • Edmund J. James Scholar • Dean's List • PURE Scholar • HCESC Jump ARCHES.

Teaching: ECE 110 & Honors Lab Staff • ECE 210 Staff • ECE 313 Staff • ECE 391 Staff.