Angeli Mittal

2023 - present

EDUCATION

Evanston, Illinois	n, Illinois Northwestern University M.S. Computer Science B.A. Neuroscience (concentration in Biology)		2020 – present Anticipated 2024
Alexandria, Virginia	Thomas Jefferson High School for Adv. Microprocessor Systems	Science and Technology Analog & Digital Electronics	2016 – 2020 Artificial Intelligence

RESEARCH

Chicago, Illinois

Feinberg School of Medicine, Northwestern University

Neurology Researcher — Evangelos Kiskinis, PhD

- Performing laboratory research with techniques such as polymerase chain reaction (PCR) and immunohistochemistry staining to explore differences in expression patterns of microglia and astrocytes in spinal cord segments for ALS patients.
- Intending to complete senior thesis with independent project in this lab.

Chicago, IllinoisLurie Children's Hospital, Center for Autonomic Medicine in PediatricsBiomedical Researcher — Debra Weese-Mayer, MD2022 – present

Pre-Vent site study: Impact of intermittent hypoxemia on cerebral oxygenation in infants born extremely preterm.

- Validating data and furthering analysis to understand the relationship between observed cerebral oxygenation drops during hypoxemia episodes in infants born at or before 28 weeks gestation.
- Led the project and dedicated a quarter for independent study at Northwestern to thoroughly analyze cerebral and peripheral oxygenation recordings using Matlab and Python.
- Received funding summer 2022 and summer 2023 from Northwestern Career Development's Summer Internship Grant Program (SIGP).
- Presented work at lab meetings.
- Performed thorough literature review and assembled cohort by sorting through several days of ongoing cardiorespiratory recordings on infants.
- Wrote an abstract for and presented at the Pediatric Academic Societies conference in 2023.

Transitional care and clinical management of adolescents, young adults, and suspected new adult patients with congenital central hypoventilation syndrome (CCHS).

- Created a guide for independent living for individuals with CCHS as they navigate adolescence and early adulthood.
- Discussed interventional packet with patients and family to inform usage and enable improvement opportunities in order to better plan for independence within this group.
- Published in the journal *Clinical Autonomic Research*.

Exceptional Student Program — Debra Weese-Mayer, MD

2021 – 2022

Machine Learning on Facial Feature Analysis: Diagnostic Screening for Congenital Central Hypoventilation Syndrome (CCHS).

- Led a research project, where I utilized a Python library to generate landmarks from frontal facial photos; subsequently trained and optimized machine learning (ML) models from the scikit-learn library to screen for CCHS via clinical and in-the-wild photos.
- Aggregated over 15,000 patient and control photos for machine learning model.
- Co-authored abstract submitted to the American Thoracic Society for subsequent oral presentation.
- Presented at Northwestern's Developmental Sciences summer poster symposium as well as at lab meetings.

Manuscript submitted to *Pediatric Research*.

Maywood, Illinois

Oncology Research Intern — Jiwang Zhang, MD, PhD

Stritch School of Medicine, Loyola University Chicago

Summer 2019

- Researched pathway of cell death (apoptosis or necroptosis) more likely to induce bone marrow failure in mice (and extrapolate to myelodysplastic syndrome in humans).
- Cultured cells and performed PCR and agarose gel electrophoresis •
- Examined bone marrow in dissected mice after Poly I:C injections. •
- Learned scientific journal analysis and presented relevant research at lab meetings.

PUBLICATIONS

Slattery SM, Wilkinson J, Mittal A, Zheng C, Easton N, Singh S, Baker JJ, Rand CM, Khaytin I, Stewart TM, Demeter D, Weese-Mayer DE. Computer-aided diagnostic screen for Congenital Central Hypoventilation Syndrome with facial phenotype. Manuscript submitted to Pediatric Research May 2023.

Slattery SM, Perez IA, Ceccherini I, Chen ML, Kurek KC, Yap KL, Keens TG, Khaytin I, Ballard HA, Sokol EA, Mittal A, Rand CM, Weese-Mayer DE. Transitional care and clinical management of adolescents, young adults, and suspected new adult patients with congenital central hypoventilation syndrome. *Clinical Autonomic Research*. 2022 Nov 20. doi: 10.1007/s10286-022-00908-8. Epub ahead of print. PMID: 36403185.

Zinzuwadia S, Mittal A, Raouf MF, Gupta R, Kini AR. AML with inv(16)(p13.1;q22) or t(16;16)(p13.1;q22); CBFB::MYH11. PathologyOutlines.com website. https://www.pathologyoutlines.com/topic/leukemiainv16.html. Published Jan 28, 2021.

PRESENTATIONS

Mittal A, Krishnamurthi N, Lonergan E, Hopkins BS, Rand CM, deRegnier R-A. Weese-Mayer DE. "Pre-Vent site study: Impact of intermittent hypoxemia on cerebral oxygenation in infants born extremely preterm." Pediatric Academic Societies (PAS) meeting on April 30, 2022 in Washington, DC, USA. (Poster presentation)

Slattery SM, Mittal A, Zheng C, Demeter D, Baker JJ, Rand CM, Stewart TM, Brogadir CD, Chung T, Lappin BL, Reed K, Khaytin I, Weese-Mayer DE. "Congenital Central Hypoventilation Syndrome (CCHS) Facial Phenotypic Recognition by Automated Modeling." American Thoracic Society (ATS) meeting on May 15, 2022 in San Francisco, CA, USA. https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2022.205.1 MeetingAbstracts.A1025 (Oral presentation by SMS)

Mittal A, Slattery SM, Zheng C, Demeter D, Rand CM, Weese-Mayer DE. "Machine Learning on Facial Feature Analysis: Diagnostic Screening for Congenital Central Hypoventilation Syndrome." Northwestern University Institute for Innovations in Developmental Sciences (DevSci) Undergraduate Poster Symposium on August 16, 2021, online. (Poster presentation)

LEADERSHIP

Evanston, Illinois

Print Managing Editor

• Edited weekly print content for the campus, city, sports, arts & entertainment, and opinion desks for both digital and print editions.

Digital Managing Editor

- Oversaw audio, video, and visual (photo and illustrations) production.
- Managed biweekly print paper production.
- Created landing pages for special issues, such as the Title IX issue, midterm elections coverage, and the basketball preview.

The Daily Northwestern, Northwestern University

January 2023 – March 2023

September 2022 – December 2022

• Facilitated multimedia trainings and address website QI.

Gameday Design Editor September 2022 – December 2022 • Designed football spreads and create graphics prior to weekly football games. Summer Design Editor Summer 2022, 2023 • Design a 48-page orientation issue and write articles for incoming freshman. March 2022 – June 2022 Creative Director March 2022 – June 2022 • Oversaw the development of the print paper. March 2022 – June 2022

Managed the photo, illustrations, and design desks.

Photo Editor

- Took, edited, and managed photos for production.
- Led audio and photo collaboration to highlight local restaurants in Evanston.

Design Editor

- Designed the print paper.
- Created graphics and illustrations.

Assistant City Editor

• Edited city desk content for print production.

Senior Staffer, Reporter

- Report on COVID-19 and public health updates on campus and in the city.
- Photographed the 2023 men's basketball season; traveled to different states for away games and photographed the Big Ten Tournament in Chicago, IL and NCAA Rounds 1 and 2 in Sacramento, CA.
- Photographed the 2022 football season; traveled to different states for away games.
- Wrote a total of 146 <u>articles</u>, with 92 articles focused on public health/science (complete list of articles included in the Supplement section).
- Wrote 29 <u>photo</u> essays (not including photo galleries and single photos with stories) and design/multimedia content (complete list included in the Supplement).

Evanston, Illinois Northwestern Undergraduate Research Journal, Northwestern University

- **Print Editor**
 - Edit submitted senior research projects for the print paper.
 - Wrote a feature on technological innovations in cardiology and cardiovascular surgery at Northwestern.

Evanston, Illinois Department of Computer Science, McCormick School of Engineering, Northwestern University Peer Mentor March 2022 – present

- Lead programming tutorial in Python and Racket for introductory computer science sections covering graphics, data structures, and animation.
- Hold weekly office hours and peer tutoring sections.
- Grade assignments and exams.

Evanston, Illinois

Treasurer

OM at Northwestern, Northwestern University

October 2021 – June 2022

• Organize events such as Diwali celebration, weekly spiritual sessions, and classical arts show for the Hindu and Northwestern community.

September 2021 – December 2021

January 2022 – March 2022

March 2021 – June 2021

September 2020 – present

September 2022 – present

- Performed ECGs, delivered labs, and took blood glucose levels, blood pressure, and lung sounds as a volunteer emergency medical technician (EMT) in the emergency department.
- Taught veterans to use the online health care system (MyHealtheVet).
- Assisted physicians in gathering patient vitals in the neurology department.
- Created pregnancy information guides for the women's health clinic.
- Prepared blood samples for diabetes and cholesterol research.
- Took patient calls, transported patients, replenished supplies (gowns and gloves), and provided water for patients in the inpatient care unit (ICU).

Northwestern Emergency Medical Organization, Northwestern University

2021 - present

2022 - 2023

April 2023

Shirley Ryan AbilityLab

- Trained to respond to calls for emergency medical assistance and to provide appropriate critical care.
- Mentor students weekly as part of their EMT-B education.

Chicago, Illinois

Evanston, Illinois

Licensed EMT, Peer Mentor

Volunteer

- Sanitized and organized equipment for the pediatric floor.
- Assisted physical therapists in conducting therapy sessions on the hands and arms floor.
- Interacted with patients and families.

HONORS & AWARDS

2022 Mark of Excellence Awards, Society of Professional Journalists

- Photo Essay, Finalist for photographing Northwestern's Diwali celebration with the 'Ramleela' musical
- Data Visualization, First Place regionally and nationally for designing and programming <u>The Daily's live</u> <u>midterm coverage webpage</u>

2023 Illinois College Press Association

- Special Supplement, Second Place for designing The Daily's 2022 Orientation Issue
- Feature Page Design, Second Place for designing the <u>"COVID-19 Two Years Later" Issue</u> timeline spread
- Sports Page Design, Third Place for designing the <u>Gameday Issue</u> for the NU vs. Purdue football game
- General News Photo Gallery, Honorable Mention for photographing <u>Northwestern's 2022 commencement</u> <u>ceremony</u>

2021 Mark of Excellence Awards, Society of Professional Journalists

General News Photography, Finalist for photographing Chicago's October 2021 abortion access march

2022 Illinois College Press Association

- Entertainment Supplement, Second Place for designing The Daily's <u>May 2021 Arts & Entertainment</u> supplement
- Opinion Page Design, Second Place for designing the October 4, 2021 issue's opinion page
- Special Supplement, Second Place for designing The Daily's 2021 Orientation Issue
- Special Supplement, Honorable Mention for designing <u>The Daily's 2021-22 basketball preview</u>

CERTIFICATIONS

Certified Emergency Medical Technician Basic Life Support (BLS) training

SKILLS

Programming / Misc.

Design & Photography

Languages

February 2023

April 2023 narch

March 2022

Other hobbies

Python, Java, Matlab, R, Sklearn, FastAl, Matplotlib, NLTK, C++, Git, Bash, Batch, Linux, HTML5, CSS3, SCSS, JavaScript, WebGL, Racket, DSSL2 Adobe Creative Cloud (InDesign, Audition, Premiere Pro, Photoshop, Illustrator, Fresco), Figma, OnShape, LTSpice, SolidWorks, DSLR, black & white film English (native), Violin Hindi (native), perfor French (working) handle

Violin performance, handlettering

SUPPLEMENT

Featured articles (total: 146, 92 (~63%) on public health/science).

- Sergio Hernandez Jr., D65 board incumbent, talks equity-focused education and addressing racial disparities (3/15/23)
- Northwestern researchers find vitamin D may not reduce statin-related muscle pain (3/8/23)
- <u>NU researchers seek to increase accessibility of motorized wheelchairs</u> (3/7/23)
- <u>New Northwestern Medicine healthcare center aims to increase imaging access, reduce diagnostic delays</u> (1/30/23)
- The Daily Explains: Navigating COVID-19, monkeypox and the flu this season (10/5/22)
- NU COVID-19 isolation housing evolves, NU provides no booster shot update (9/28/22)
- <u>University provides monkeypox resources with website launch</u> (9/28/22)
- Evanston encourages new bivalent COVID-19 booster vaccine after CDC authorization (9/9/22)
- Northwestern provides limited COVID-19 resources for fall, citing stable campus case data (8/15/22)
- <u>Mittal: Finding cohesion among polar interests</u> (8/12/22)
- In Focus: Student groups, open-access documents reveal inconsistencies with ASG finance regulations (7/24/22)
- Evanston refers residents to local pharmacies, health care providers for pediatric COVID-19 vaccines after CDC expands eligibility (6/26/22)
- Northwestern continues to relax COVID-19 guidelines amid rise of new omicron variants (6/16/22)
- <u>NU COVID-19 positivity rate dips before Dillo Day weekend</u> (5/23/22)
- Northwestern maintains no masking or testing policy changes, does not mention uptick in COVID-19 positivity (5/18/22)
- NU COVID-19 positivity rate continues to reach record-breaking numbers (5/13/22)
- The Daily Explains: Updated city, state COVID-19 guidelines in light of omicron subvariant prevalence (5/12/22)
- Northwestern's gnats make a comeback after a year of isolation (5/8/22)
- <u>NU COVID-19 positivity rate reaches highest of the pandemic as University announces it has no plans to increase</u> <u>mitigation measures</u> (5/6/22)
- <u>Evanston moves to "Medium" transmission level due to significant case rise, no longer reports COVID-19</u> positivity rate (5/5/22)
- Northwestern COVID-19 positivity rate stable amid decreasing testing on campus (5/1/22)
- <u>City reports almost no change to new COVID-19 cases, does not report positivity rate</u> (4/28/22)
- Northwestern COVID-19 positivity rate declines, still one of the highest reported since beginning of pandemic (4/24/22)
- Evanston COVID-19 positivity rate and hospitalization numbers rise as omicron subvariant becomes widespread (4/21/22)
- <u>NU admin has no plans to implement further mitigation measures as omicron subvariant cases rise</u> (4/21/22)
- <u>NU COVID-19 positivity rate reaches second highest of the pandemic with limited testing, no mask mandate</u> (4/15/22)
- Evanston's COVID-19 new positive cases more than double last week's number as state no longer tracks positivity rate (4/14/22)
- <u>Two years of NU COVID-19 testing requirements and dwindling enforcement</u> (4/11/22)

- NU COVID-19 positivity rate rises 1.5 percentage points amid declined testing (4/10/22)
- Evanston COVID-19 positivity rate takes a dip after one month on the rise (4/7/22)
- <u>City COVID-19 positivity rate rises, eligible individuals can receive a second booster shot</u> (4/3/22)
- <u>COVID-19 positivity rate and case numbers continue to climb after spring break</u> (4/3/22)
- Evanston COVID-19 average positivity rate reaches lowest since July 2021 (3/4/22)
- Northwestern's mask-optional policy effective Monday amid fluctuating COVID-19 positivity rate (2/28/22)
- <u>City COVID-19 positive case numbers reach below 100, positivity rate again below 1%</u> (2/25/22)
- <u>City to lift mask and vaccine mandate Monday in accordance with state timeline</u> (2/24/22)
- <u>City COVID-19 positivity rate reaches below 1%, free KN95 distribution to take place next week</u> (2/18/22)
- <u>COVID-19 positivity rate and case numbers continue to climb</u> (2/13/22)
- <u>COVID-19 case numbers continue to rapidly decline, Cook County Health offers \$100 incentive for vaccinations</u> (2/11/22)
- Northwestern COVID-19 positivity rate holds steady while testing numbers decline (2/7/22)
- Evanston to offer 5 free KN95s at EPL, senior center (2/4/22)
- <u>COVID-19 case numbers rapidly declining</u>, FDA to discuss vaccinations for children under 5 (2/4/22)
- Northwestern COVID-19 positivity rate rises after a week without required testing (1/30/22)
- Evanston COVID-19 positive cases sees 35% reduction from last week (1/28/22)
- <u>Researchers assess nationwide COVID-19 attitudes and masking adherence</u> (1/28/22)
- <u>Positive COVID-19 test numbers drop at Northwestern one-third from week prior (1/23/22)</u>
- Evanston COVID-19 positivity rate sees almost 2 percentage point reduction (1/21/22)
- How to order 4 free, at-home COVID-19 tests for your household (1/19/22)
- <u>NU transitions to "yellow" activity level as COVID-19 cases decline, new testing requirements announced</u> (1/14/22)
- Evanston COVID-19 cases this week comprise almost 10% of all-time cases in the city (1/14/22)
- The Daily Explains: Upgrading your masks and maximizing effectiveness (1/14/22)
- <u>NU to start in-person instruction Jan. 18 after record number of COVID-19 cases</u> (1/11/22)
- The Daily Explains: Interpreting COVID-19 test results at Northwestern (1/11/22)
- NU clarifies Quarantine & Isolation Housing roommate assignments policy (1/9/22)
- <u>City COVID-19 positivity rate declines, new positive cases on the rise</u> (1/6/22)
- <u>University's updated quarantine and isolation protocol inconsistent with CDC's recommendations</u> (1/1/22)
- The Daily Explains: Wildcat Wellness guidelines and updated winter COVID-19 campus protocols (12/30/21)
- Cook County Health to offer three COVID-19 mass vaccination clinics Sunday (12/17/21)
- Northwestern announces winter COVID-19 entrance testing requirements (12/10/21)
- What we know about the Omicron variant so far, and how you can stay safe and COVID-19-aware during the holidays (12/1/21)
- <u>COVID-19 positivity rate increases before Thanksgiving amid booster shot eligibility expansion (11/22/21)</u>
- <u>NU health professionals advise caution with Thanksgiving travel, gatherings</u> (11/17/21)
- <u>NU positivity rate sees slight increase, new reported positives remains steady</u> (11/15/21)
- <u>City releases survey, Cook County opens appointments for pediatric COVID-19 vaccination</u> (11/12/21)
- <u>Northwestern's COVID-19 positivity rate continues to drop</u> (11/8/21)
- Kellogg students required to test twice a week, COVID-19 protocols tighten (11/1/21)
- <u>City opens two Moderna booster shot vaccination events this week</u> (11/1/21)
- Northwestern sees decline in COVID-19 positivity rate, positive tests remain steady (11/1/21)
- Moderna, Johnson & Johnson booster shots available in Evanston (10/27/21)
- <u>Northwestern sees COVID-19 positive cases double among non-undergraduate students</u> (10/25/21)
- <u>El Daily Explica: Lo que necesitas saber sobre la gripe durante COVID-19</u> (10/25/21; translated)
- <u>NU presents aggregate COVID-19 vaccination, testing statistics during Faculty Assembly</u> (10/20/21)
- The Daily Explains: What you need to know about the flu season during COVID-19 (10/18/21)

- Northwestern COVID-19 positivity rate sees a slight increase, otherwise remains steady (10/18/21)
- <u>Northwestern requires staggered COVID-19 testing for all undergraduates</u> (10/13/21)
- Northwestern COVID-19 positivity rate stays steady at 0.51% (10/11/21)
- Northwestern reports 51 positive COVID-19 tests, down by 30 from week one (10/3/21)
- <u>City to administer Pfizer-BioNTech booster shot for eligible individuals</u> (9/28/21)
- <u>NU requires additional COVID-19 testing amid case spike</u> (9/26/21)
- Northwestern's COVID-19 on-campus requirements, activities: Explained (9/22/21)
- <u>A guide to mental health and wellness resources at NU</u> (8/15/21)
- CDPH talks COVID-19 falling vaccination rates in light of expanded eligibility, relaxed guidelines (5/17/21)
- You got the COVID-19 vaccine now what? Chicago health experts answer questions on vaccine effectiveness, immunity (4/29/21)
- Illinois medical professionals address COVID-19 vaccine inequity, withstand infodemic (4/15/21)
- La guía de vacunación del Daily: Lo que tienes que saber para poder vacunarse (4/14/21; translated)
- Lasagna Love Mamas and Papas address food insecurity, deliver home-cooked meals (4/14/21)
- Eli Coustan, 13-year-old Evanston resident, creates website to help community members find vaccines (4/13/21)
- Evanston pauses J&J vaccine as federal agencies review rare cases of blood-clotting nationwide (4/13/21)
- Illinois residents 16 and older eligible for COVID-19 vaccine April 12 (4/12/21)
- <u>1 in 5 Evanston residents are fully vaccinated, but positivity rates are on the rise</u> (4/2/21)
- The Daily's COVID-19 vaccination guide: what you need to know and how to get a COVID-19 vaccine (4/2/21)
- <u>City officials talk Phase 1B COVID-19 vaccine distribution, limited supplies</u> (2/5/21)
- <u>City details COVID-19 vaccine rollout, encourages community-wide vaccination</u> (1/25/21)
- Ward 6 candidate Katie Trippi seeks accessibility, affordability and equity (1/19/21)
- Feinberg physicians and students get COVID-19 vaccine, stress continued vigilance (1/15/21)
- Northwestern administers Color winter COVID-19 testing, students talk experiences (1/11/21)
- <u>NU alumni talk student protests, stop University donations due inadequate response</u> (11/20/20)
- Pretrial Fairness Act seeks to end cash bail, promote racial and criminal justice (11/20/20)
- ASG tables FMO enshrinement, discusses failures to address internal racism (11/19/20)
- Medill alumni discuss 2020 election coverage and impacts on journalism industry (11/11/20)
- Neal Taparia, founder of EasyBib, cites his entrepreneurial journey (10/20/20)
- <u>"Beyond the Walls": Evanston Made's "Art Under Glass" revitalizes vacant storefronts</u> (10/7/20)

Featured *photography* (total: 29 photo essays, not including photo galleries and single photos with stories)

- <u>Captured: Northwestern's dance comes to a close after losing to UCLA 68-63</u> (3/19/23)
- Men's Basketball: 'I can't talk enough about the support': Northwestern fans journey from far and wide to support the Wildcats in the Big Dance (3/17/23)
- Captured: Wildcats wrangle Boise State 75-67 in March Madness Round of 64 (3/16/23)
- <u>Captured: Northwestern eliminated from Big Ten Tournament in another close loss to Penn State</u> (3/11/23)
- <u>Captured: Northwestern badgers Wisconsin with another narrow victory</u> (2/6/23)
- <u>Captured: NU Wrestling remains undefeated at home after close match against Wisconsin</u> (1/29/23)
- <u>Captured: jxdn headlines fall Chicago show</u> (11/16/22)
- Captured: Field Hockey wins first two rounds, proceeds to NCAA Final Four (11/14/22)
- <u>Hindu YUVA celebrates Diwali with 'Ramleela' musical</u> (10/24/22)
- <u>Captured: Northwestern Commencement ceremony 2022</u> (6/13/22)
- <u>Captured: Wildcats victorious at first home tennis match of the season</u> (2/15/22)
- Northwestern holds first institution-backed celebration of Diwali (11/5/21)
- Main-Dempster Mile celebrates Halloween with costumes, candy and canine cookies (11/1/21)
- <u>Captured: March to Defend Abortion Access assembles in downtown Chicago</u> (10/4/21)

Featured design and multimedia content.

- The Daily Northwestern's live midterm coverage, webpage (11/9/22)
- Northwestern vs. Ohio State football game preview, print (11/3/22)
- The Daily Northwestern's 2022 Basketball Preview, webpage (10/31/22)
- 50 Years of Title IX, webpage (10/27/22)
- The Daily Northwestern's 2022 Orientation Issue, print and webpage (8/12/22)
- <u>Two years later: Northwestern's COVID-19 story, as told by testing data</u> (3/4/22)
- Hot from the Oven: A multimedia series on Evanston eateries (2/28/22)
- The Daily Northwestern's 2021 Basketball Preview, print (11/8/21)