Deepishka Pemmasani

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EDUCATION

Indiana University, Luddy School of Informatics, Computing, & Engineering   Indianapolis, IN
Master of Science in Health Informatics   May 2025
Sri Padmavati School of Pharmacy   Tirupati, India
PharmD   February 2019

TECHNICAL SKILLS

Healthcare Data Standards: HL7, FHIR, CCD, DICOM, ICD-10, SmileCDR, InterOpstation
Programming & Data Analysis: R, Python (NumPy, Pandas, scikit-learn), SQL, SAS, Statistics, Machine Learning
EHR & Databases: Cerner, Epic, OpenMRS, IROC, REDCap, ARISg7, SCEPTRE 2.6.21
Visualization & Tools: Tableau, PowerBI, JIRA, Confluence, MS Office, Thunderclient, Google Collab
Advanced Analytics: NLP, Reinforcement Learning, Structural Equation Modeling, Network Analysis

PROFESSIONAL EXPERIENCE

Michigan Health Information Network (MiHIN)   Remote
Health Informatics Intern   August 2024 - Present
Technologies: FHIR, HL7, CCD, SmileCDR, Thunderclient, JIRA

- Resolved complex healthcare data interoperability issues by diagnosing root causes in UI functionality, SmileCDR data exchange, and source clinical documents (CCDs/HL7 v2 messages)
- Created comprehensive healthcare data mapping documentation aligning HL7 v2 messages, CCD documents, and FHIR resources with US Core Implementation Guide standards
- Developed automated test protocols validating test CCDs, ensuring accurate data transformation in the SmileCDR system
- Assisted in MITP validation processes, verifying data integrity between raw clinical documents and their FHIR representations
- Created technical documentation of workflow processes

Riley Children's Health   Indianapolis, IN
Research Assistant, Pediatric Nephrology Department   January 2023 - Present
Technologies: REDCap, Cerner, IROC, SQL, Tableau

- Managed kidney transplant transition study for adolescents, tracking health outcomes, medication adherence, and compliance
- Built/configured secure REDCap surveys with logic/validation rules for pediatric transplant visit information
- Coordinated data migration from Cerner to IROC study database and implemented electronic consent procedures
- Working on Electronic Data Transfer implementation between Cerner and IROC with IU Health Research teams

Indiana University   Indianapolis, IN
Graduate Research Assistant - Purkayastha Lab for Health Innovation   January 2023 - Present
Technologies: Python, R, TensorFlow, scikit-learn, SAS, Statistical Modeling

- Developed personalized exercise recommendation system using machine learning and reinforcement learning
- Designed contextual bandit algorithms and reward functions based on clinical guidelines
- Analyzed MIDUS 3 data investigating effects of physical, psychological, and social factors on cognitive functioning
- Conducted datathon impact analysis and contributed to LIFE Trial analyses examining health disparities

IU School of Health and Human Sciences   Indianapolis, IN
Data Analyst   January 2024 - August 2024
Technologies: Python, R, Statistical Modeling

- Analyzed MIDUS 3 study data to investigate effects of physical, psychological, and social factors on cognitive functioning
- Contributed to LIFE Trial analyses examining racial disparities in cardiovascular health improvements

IQVIA India Pvt Ltd   Bangalore, India
Pharmacovigilance Operations Specialist   February 2019 - July 2023
Technologies: MedDRA, WHO DRUG dictionaries, ARISg7, SCEPTRE 2.6.21, GMS

- Processed adverse event data from diverse sources while ensuring compliance with ICH/GCP guidelines
- Streamlined adverse event documentation process using MedDRA and WHO DRUG dictionaries, reducing reporting time and increasing accuracy
- Proactively identified and resolved data discrepancies, resulting in a decrease in query response time while maintaining regulatory timelines for adverse event reporting.

- Managed correspondence with Local Safety Officers, Pharmacovigilance Physicians, and customer POCs, ensuring timely communication and resolution of queries
- Achieved 100% regulatory compliance through effective risk management strategies

RESEARCH PROJECTS

Personalizing Exercise Recommendations with Explanations   2023 - 2024
Multi-Armed Contextual Bandit and Reinforcement Learning   *Technologies: Python, TensorFlow, scikit-learn, DNQ*
- Developed algorithm to recommend suitable exercises based on demographics and health outcomes
- Published findings at HealthRecSys'24 conference in Bari, Italy (October 2024)

Healthcare Interoperability   2024
HL7 Standards Implementation   *Technologies: HL7, FHIR, C-CDA, REST APIs*
- Collaborated with a team to demonstrate practical interoperability between healthcare systems using HL7 standards, C-CDA documents, and REST APIs
- Developed a well-formed C-CDA document adhering to HL7 standards, containing patient information, encounter details, diagnosis, medications, and other clinical data
- Verified successful transmission and display of data in the receiving system's UI

Cognitive Functioning Analysis   2023 - 2024
MIDUS 3 Biomarker Study   *Technologies: R, SAS, Statistical Modeling, Path Analysis*
- Analyzed effects of physical, psychological, and social factors on cognitive functioning and health outcomes
- Applied health belief model, theory of planned behavior, and self-determination theory frameworks

Datathon Network Impact Analysis   2023 - 2024
Scholarly Growth and Diversity Assessment   *Technologies: Network Analysis, R, Data Visualization*
- Compared scholarly growth metrics between datathon attendees and conference participants (2017-2019)
- Measured impact based on gender diversity, educational backgrounds, and income country diversity

LIFE Trial on Cardiovascular Health   2023 - 2024
Racial Disparities Analysis   *Technologies: SAS, Longitudinal Data Analysis, Survival Analysis*
- Examined racial disparities in lifestyle factor improvement related to cardiovascular health
- Published findings in Innovation in Aging (December 2024)

Extended Multidisciplinary Kidney Transplant Transition Study   2023 - Present
Comprehensive Analysis   *Technologies: REDCap, SQL, Tableau, Clinical Data Management*
- Analyzed outcomes related to adolescent kidney transplant readiness and medication adherence
- Developed REDCap survey instruments for data collection and management

PROFESSIONAL MEMBERSHIPS & LEADERSHIP

- Student Volunteer Team Lead, AMIA Working Group for Clinical Decision Support Systems (CDSS) — Coordinate student activities while contributing to research on AI-driven clinical decision support
- Member, Improving Renal Outcomes Collaborative (IROC) — Contribute to quality improvement initiatives for pediatric kidney disease management
- Member, Health Level Seven International (HL7) Working Group — Participate in healthcare data interoperability standards development

PUBLICATIONS

- Nemati D, Pemmasani D, Lavangu V, Kaushal N. (2024). The impact of the LIFE trial on cardiovascular health: racial disparities in lifestyle factor improvement. Innovation in Aging, 8(Supplement_1), 420-421.
- Kaushal N, Pemmasani D, Noriega de la Colina A, Nemati D. (2024). Incorporating exercise to buffer aversive health effects of loneliness among older adults in the LIFE trial. Innovation in Aging, 8, 361-361.
- LaMotte JE, Friederich A, Chaudhary P, Pemmasani D, & Nailescu C. Tired but Trying to Transition: Understanding the Cognitive and Psychosocial Challenges in AYA Kidney Transplant Recipients (Abstract under review).
- Naliyatthaliyazchayil P, Pemmasani D, Kaushal N, Nemati D, Purkayastha S. (2024). Personalizing exercise recommendations with explanations using multi-armed contextual bandit and reinforcement learning. HealthRecSys'24, Bari, Italy.
- Pemmasani D, et al. (2019). Assessment of drug related problems and clinical pharmacist interventions in a tertiary care teaching hospital. International Journal of Basic and Clinical Pharmacology.
- Pemmasani D, Munagala P, Gopineni D. (2018). A rare case report of neurodegenerative disease: Duchenne muscular dystrophy. Inventi Rapid, Pharmacy Practice, 2018(4):1-2.
- Lakshmi RR, Prasad TSD, Pemmasani D, et al. (2019). A retrospective study of assessment of pattern of adverse drug reactions in geriatric patients in a tertiary care teaching hospital. World Journal of Pharmaceutical Sciences.
- Lakshmi RR, Prasad TSD, Pemmasani D, et al. (2019). A retrospective study on pattern of adverse drug reactions to HAART therapy. Perspectives in Clinical Research.

- Pemmasani D, et al. (2019). Anti-retroviral therapy associated hepatotoxicity: case report and review. Indian Journal of Pharmacy.

CONFERENCES

- **ViVE 2025 Conference** (February 2025) - Volunteer Team Member, InterOpNow! and AI Pavilion
  - Managed visitor operations and assisted presenters during healthcare interoperability sessions
  - Gained hands-on exposure to FHIR implementation, TEFCA, and healthcare AI integration
- **ACM RecSys 2024: Health Recommender Systems Workshop** - Presenter
  - Presented research on personalized exercise recommendation systems using contextual bandits
- **IROC Fall 2024 Learning Session**, Cincinnati - Active Participant
  - Collaborated with nephrology specialists on pediatric kidney disease management protocols
  - Contributed to discussions on clinical data standardization and research database integration

CERTIFICATIONS & AWARDS

- Bio Medical Researcher by CITI Program — NDA Clinical Trials Network - Good Clinical Practice
- Uppsala Monitoring Centre – Statistical Reasoning and Algorithms in Pharmacovigilance
- Uppsala Monitoring Centre – Signal Detection and Causality Assessment in Pharmacovigilance
- Bronze award by IQVIA Impact program (2021) — Multiple Ovation awards by IQVIA (2022-2023)