

PAPER TITLE

Listening Between the Lines: Design Principles and Formative Evaluation of BesideU, a Human-in-the-Loop Conversational AI for Early Detection of Youth Suicide Risk

AUTHORS AND AFFILIATION

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BRIEF OVERVIEW OF THE RESEARCH

BesideU is a mobile AI companion that reads language, behavior, and mood change over time to estimate youth suicide risk on five levels and connect young people to human help. Trained on 57,863 labeled posts, it reached 88.5% sensitivity and 93.2% specificity. Clinical validation is now underway.

WHY THIS RESEARCH MATTERS

Suicide is the second leading cause of death for Americans aged 10 to 34, and one in five U.S. high school students seriously considered suicide in 2023. Screening tools such as the PHQ-9 capture a single moment, while risk rises and falls between visits. Young people confide in general-purpose chatbots that were never designed for crisis. BesideU offers a safer model: auditable detection models judge risk, a language model only writes supportive replies, and people make crisis decisions. Its design principles and NIST-aligned governance give universities, health systems, and regulators a template for responsible AI in mental health.

RELATED PUBLICATION

Esmaeilzadeh, P. (2025). Decoding the cry for help: AI's emerging role in suicide risk assessment. *AI and Ethics*, 5, 4645-4679. <https://doi.org/10.1007/s43681-025-00758-w>

RELATED PRESENTATION

Esmaeil Zadeh, P. (2026, October). BesideU: AI-assisted early support for youth mental health. Work-in-progress presentation, delivered before the clinical validation of the suicide risk detection app. 2nd Annual FIU Population Health Initiative Conference, Miami, Florida, October 1 to 2, 2026.