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Improving early detection of breast cancer by the integration of disparate data using artificial intelligence

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Breast cancer is the world's most prevalent cancer, with 7.8 million people diagnosed worldwide in 2020 with rates predicted to continue to increase due to the drastic decrease in effective screening during the Covid19 pandemic. Gabbi is a digital health tool designed to decrease delayed diagnosis by reducing the cost and time to diagnosis. Gabbi provides the most accurate breast cancer risk assessment paired with a personalized clinical action plan. The Gabbi Risk Assessment Model (GRAM) is a deep learning model that integrates personal, familial, demographic, and clinical data in a meaningful and interpretable fashion to predict breast cancer risk. The preliminary GRAM was built and trained using a medical claims dataset of 14 million users and predicts a breast cancer diagnosis 2 years in advance. The GRAM significantly surpasses standard of care models such as Gail, Tyrer Cuzick, and BOADICEA with 0.81 AUC, 0.39 sensitivity, and 0.89 specificity. Based on the individual risk assessments, Gabbi suggests a personalized medical action plan curated from standard of care guidelines, current medical literature, and validated by experts. To promote adherence to action plans, improve attitude towards the medical community, increase user engagement, and user retention, Gabbi includes an interactive community engagement platform. Ultimately, Gabbi decreases delayed diagnosis with a consumer-facing platform that calculates the most accurate and inclusive risk assessment for women, provides user-friendly action plans, while encouraging positive attitudes towards the medical community and increasing patient engagement with their own health through community interaction and support.

Biography

Kaitlin Christine became a breast cancer survivor at age 24 and ovarian cancer Previvor at 28. She worked on the front lines at Myriad Genetics working with health systems and clinicians to set up high risk screening protocols. She is the Founder and CEO of Gabbi, Inc a FemTech startup on a mission to decrease delayed diagnosis with a proprietary machine learning engine to predict breast cancer in women under 50.