



**WOMEN'S  
HEALTH**

# **FemCare - Insightful Wellness**

FemCare is a revolutionary platform that aims to transform gynaecological healthcare by leveraging advanced prediction and classification algorithms. Developed by Upasana Pradhan and Prameya Mohanty, this innovative solution addresses the alarming rise in diseases such as cervical cancer, breast cancer, ovarian cancer, and polycystic ovarian syndrome (PCOS), which pose a significant public health challenge globally and in India.

**By: Upasana Pradhan & Prameya Mohanty**  
**Standard XI**  
**Delhi Public School, Rourkela**



# A Pressing Public Health Challenge

## 1 Cervical Cancer

Cervical cancer accounts for 604,000 new cases and 342,000 deaths worldwide annually, with India contributing to 30% of the global burden, reporting over 123,000 new cases and 77,000 deaths each year.

## 2 Breast Cancer

Breast cancer is the leading cause of cancer incidence globally, with 2.3 million new cases in 2020. In India, nearly 60% of cases are diagnosed at stages III and IV, resulting in higher mortality rates.

## 3 Ovarian Cancer

Ovarian cancer adds to the cancer burden with more than 313,000 new cases worldwide in 2020. In India, it constitutes 3.44% of all cancer cases, with a significant percentage diagnosed at advanced stages, leading to poor survival outcomes.

## 4 PCOS

PCOS affects 8-13% of women globally, contributing to infertility and various long-term health issues. In India, the prevalence ranges from 8-22%, with many women facing delays in diagnosis and treatment due to socio-cultural barriers and lack of awareness.



# FemCare: A Transformative Solution

## Early Diagnosis

FemCare leverages advanced prediction and classification algorithms to enable early diagnosis of gynaecological diseases, leading to timely interventions and improved patient outcomes.

## Effective Management

Through sophisticated data analysis and machine learning models, FemCare empowers healthcare professionals with accurate risk assessment tools, enhancing the management of cervical cancer, breast cancer, ovarian cancer, and PCOS.

## Holistic Approach

FemCare not only focuses on predictive and classification algorithms but also redefines gynaecological healthcare with educational resources and community support, empowering women with proactive healthcare solutions.

# 3 GOOD HEALTH AND WELL-BEING



## Aligning with the SDGs

### SDG 3.4

Reduce premature mortality from non-communicable diseases through prevention, treatment, and the promotion of mental health and well-being.

### SDG 3.8

Achieve universal health coverage, including access to quality essential health-care services and affordable essential medicines and vaccines.

1

2

3

### SDG 3.7

Ensure universal access to sexual and reproductive health-care services, including for family planning, information, and education.



# Innovative AI Integration



## Advanced Data Analytics

Integrating advanced data analytics for early disease detection.



## Natural Language Processing

Utilizing NLP for user-friendly interfaces and personalized recommendations.



## Machine Learning Algorithms

Applying machine learning to personalize health recommendations and improve accuracy.





# A Transformative Learning Journey

## Gynaecological Expertise

Gained a profound understanding of gynaecological diseases, their prevalence, and the critical role of early diagnosis.

## Data-Driven Insights

Developed skills in medical data analysis, user-centric design, and the integration of healthcare solutions.

## Accessible Healthcare

Highlighted the importance of accessible and informed health resources for women, fostering a commitment to improving women's health outcomes.

## Recognized for AI Excellence

CBSE-Intel AI Student Community Challenge of the Year, 2021	Winner
G20 Jan Bhagidari Youth Fair 2023	Winner
vivoIgnite 2023 Technology & Innovation Awards	Finalist
1M1B India AI Youth Awards, 2024	Finalist





# Upholding Ethical and Privacy Standards

## Ethical Concerns

Ensuring informed consent, accountability, and recourse for users in case of errors or misdiagnoses.

## Privacy Concerns

Implementing robust data security measures, adhering to relevant data protection laws and regulations.



# WHAT YOU KNOW

## Women's Health Facts



80%

of strokes are preventable



1

in 8 women are diagnosed with breast cancer

## Envisioning Widespread Impact

1

### Rural Areas

Reducing diagnosis delays, increasing awareness, and providing community support to improve health outcomes for 200 million women.

2

### Urban Areas

Enabling timely interventions, informed decisions, and holistic support for 150 million urban women.

3

### Worldwide

Extending diagnostic tools, reducing mortality, and empowering women in low-income, middle-income, and high-income countries.

**Thank You**

**Together we can make a difference...**