

# EcoFresh - An Integrated Farmer Market Platform with AI-Powered NLP Chatbot to Strengthen Agricultural Trade and Simplify E-Commerce Operations

Dr. G. Nanthakumar<sup>1</sup>, T.Ashwin<sup>2</sup>, B.Brahadeeswarar<sup>3</sup>, P.Dharun<sup>4</sup>, S.Joel Levitus<sup>5</sup>

Professor, Department of Computer Science and Engineering<sup>1</sup>

Student, Department of Computer Science and Engineering<sup>2,3,4,5</sup>

Anjalai Ammal Mahalingam Engineering College, Thiruvarur, Tamil Nadu, India

nanthashriram@gmail.com , ashwincrashwincr032@gmail.com, brahadees70649@gmail.com ,

prabusubadd@gmail.com , davidchrist2003@gmail.com

**Abstract:** *EcoFresh Farmer-Market Connection Platform is a technology-based solution to facilitate the supply chain of agriculture by directly linking farmers with industries. The platform removes the middleman, thus giving farmers a good price for their produce and allowing industries to acquire products at a lower cost. It provides a simple digital interface to farmers to list farm produce and business firms to search, sift, and buy based on quality, price, and geographic area preferences. For further assistance to farmers, the platform utilizes an AI-driven chat assistant which provides instant advice on cultivation process, market trends, and farming-related information. This smart advice assists the farmers in making appropriate decisions and improving productivity. By integrating e-commerce capabilities with AI-driven advisory services, EcoFresh enhances the effectiveness of trade and also educates farmers and offers them direct access to markets. Transparency, fairness, and sustainability in agricultural trade are ensured through the platform, thereby establishing a strong and inclusive Agri-economy*

**Keywords:** Agri-tech, supply chain optimization, farmer-industry linkage, digital agriculture, AI-driven advisory, e-commerce, market transparency, sustainable agriculture, agricultural productivity, farmer empowerment, direct market access.

