

ANALYZING AND EVALUATING EFFICIENT PRIVACY PRESERVING LOCALIZATION FOR PERVASIVE COMPUTING

Submitted To:-

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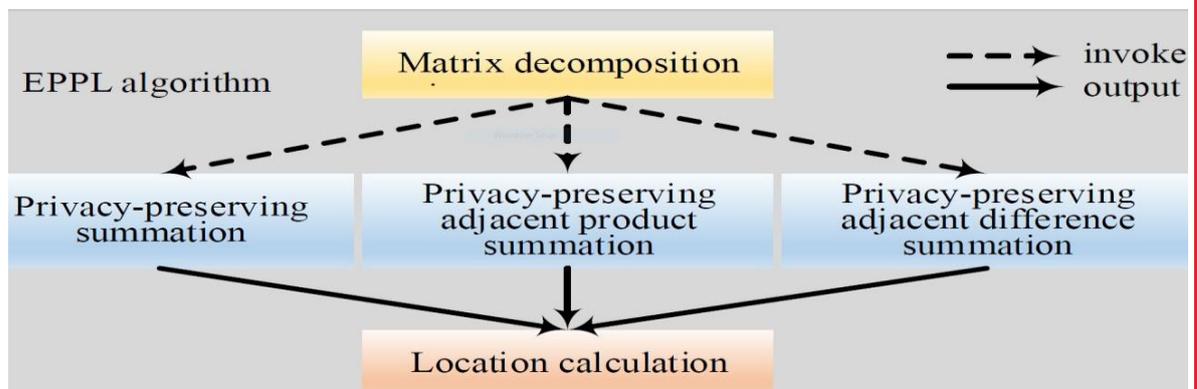
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Respected Sir, following are reports of the one month summer internship that I have completed recently:-

- **PERVASIVE COMPUTING:** - I started the internship with research paper related to the basic introductory information about pervasive computing and its application in our day to day life. Basically it is associated with embedding microprocessors in day-to-day objects, allowing them to communicate information.
- **CROWDSOURCING AND LOCALISATION:-**After this I went to the papers of crowdsourcing localization which provides a new way to capture the advantage of both powerful mobile devices and crowdsourcing in order to support pervasive localization.
- **NONADJACENT SUBTRACTION BASED LOCALIZATION (NSL):-**Then I went through the classical NSL method of localization whose solutions are based on homomorphic encryption techniques that are of high computational and communication overheads.
- **HOMOMORPHIC ENCRYPTION:-**It is one of the classical technique used for the privacy preservation in the NSL localization .It is a form of encryption that allows computation on cipher texts, generating an encrypted result which, when decrypted, matches the result of the operations as if they had been performed on the plaintext. The purpose of homomorphic encryption is to allow computation on encrypted data.
- **ADJACENT SUBTRACTION BASED LOCALIZATION (ASL):-**In this model an efficient privacy preserving localization (EPPL) method is developed .



It is based on matrix decomposition consisting of the three major parts of calculation namely Privacy preserving summation (PPS), privacy preserving adjacent product summation (PPPS) and Privacy preserving adjacent difference summation (PPDS)

- **MATLAB CODING & ANALYSIS OF EPPL ALGORITHM** :-In the last part of the internship I studied Matlab Coding and completed the coding and analysis part of EPPL algorithm by assuming some few anchor nodes and one target nodes .