



Middleware for Ubiquitous Training and Inference

My PhD plans for the next 3 years

Rémy Raes

- PhD started in March 2023
- Formerly research engineer
- Shared between two teams:
 - > Spirals (Lille)
 - Romain Rouvoy
 - Lionel Seinturier
 - Adrien Luxey-Bitri
 - > WIDE (Rennes)
 - François Taïani
 - Davide Frey

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Distributed Machine Learning in Ubiquitous Environments using Location-dependent Models

1. How to store unbounded data streams on constrained mobile devices?
2. How to exchange relevant model samples among nearby devices?
3. How to program DML algorithms for the masses?

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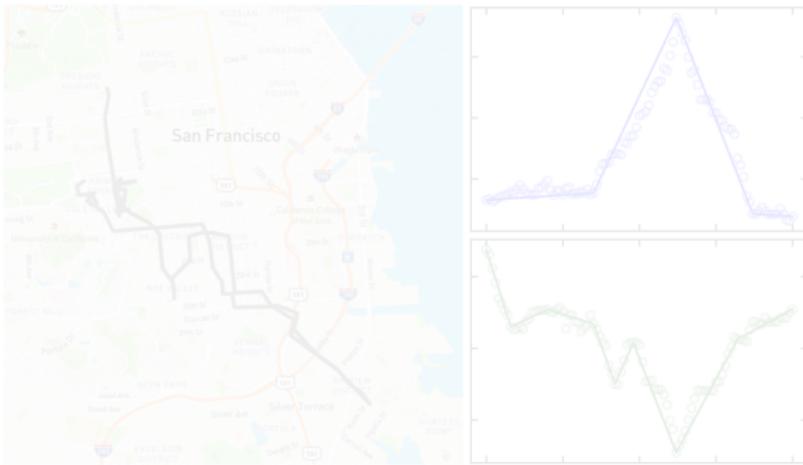


Figure: Modelling latitude and longitude of a user in San Francisco.

O.Ruas, R.Raes, A.Luxey-Bitri, R.Rouvoy, FLI: Storing Unbounded Data Streams on Mobile Devices, under submission to PerCom 2024

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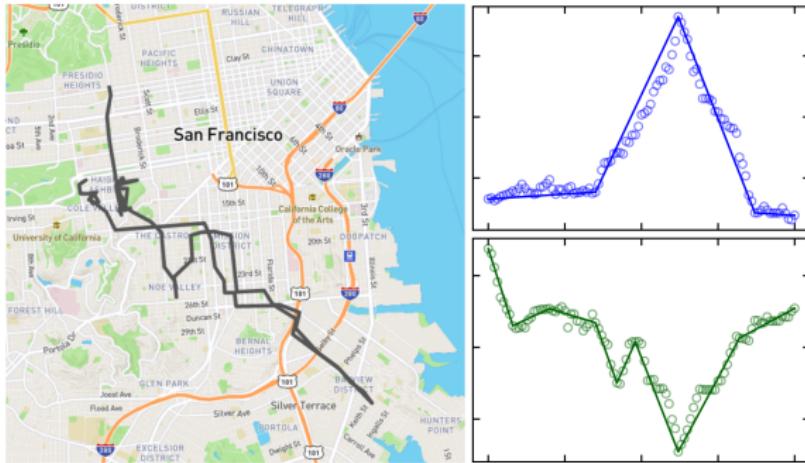


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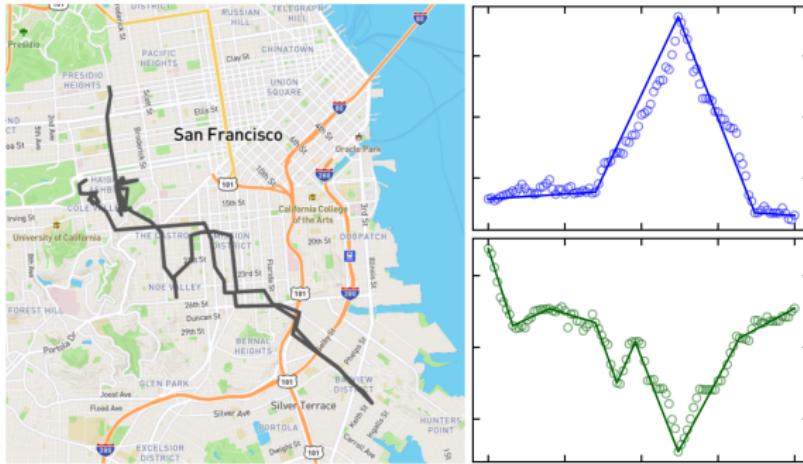


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R.Raes, A.Luxey-Bitri, R.Rouvoy, F.Taiani, D.Frey, It's amazing what you'll find face-to-face! (working title), future submission to PerCom Workshops 2024

L.Desauw, A.Luxey-Bitri, R.Raes, R.Rouvoy, O.Ruas, W.Rudametkin, A critical review of mobile device-to-device communication, <https://arxiv.org/abs/2309.11871>

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3. Network



MANETs, DTNs,
OppNets ...

2. Unified data link



1. Physical



Bluetooth, IR,
Wi-Fi, NFC ...

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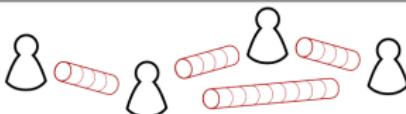
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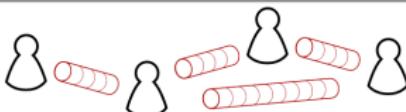
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