

deepspec

Bacheloroppgave våren 2019
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Innholdsfortegnelse

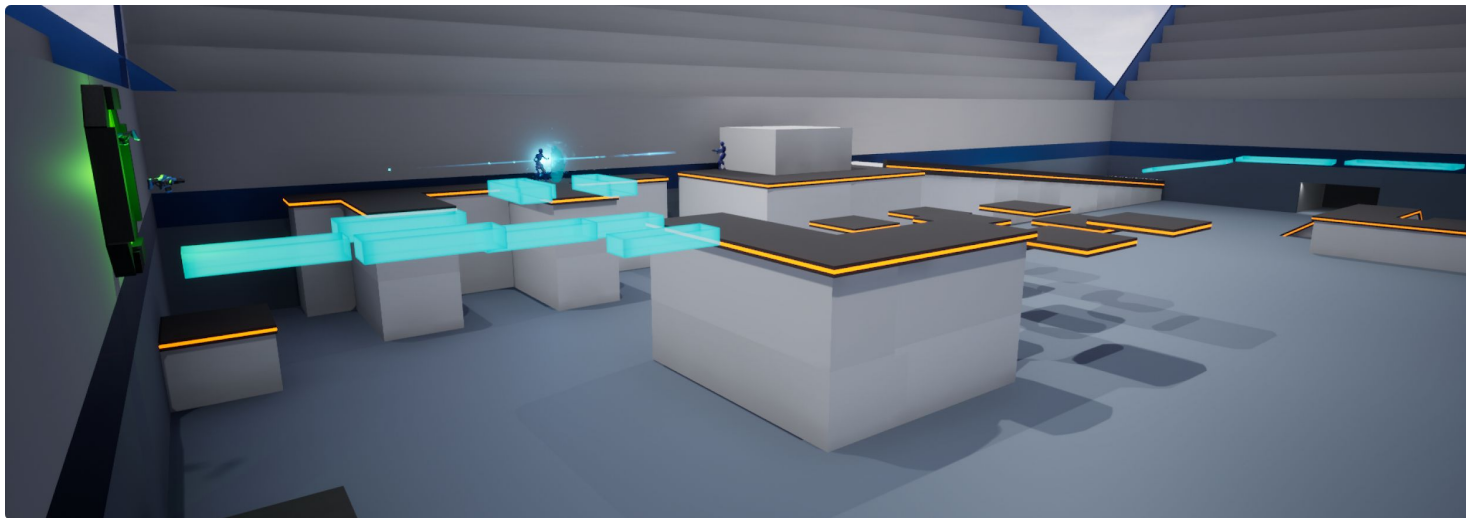
- Riddlebit
- Oppgave
- Hvorfor
- Løsning
- Resultater
- Konklusjon

Riddlebit

- Norsk spillselskap
- Grunnlagt sent 2017
- 7 ansatte
- Vunnet to priser på Norwegian Game Awards



Setback



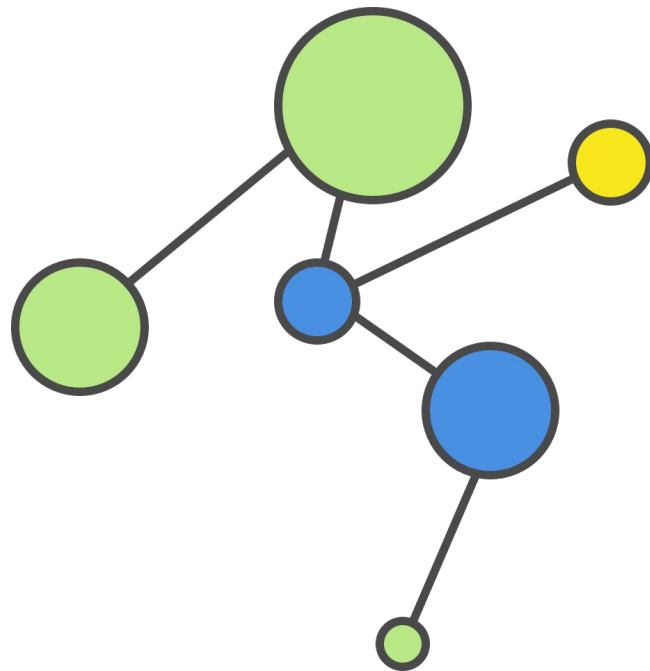
Oppgave

**Bruke maskinlæring til å predikere fremtidige
interessepunkter i et dataspill**



Hvorfor vi valgte denne oppgaven

- Aktuell
- Spennende
- Cutting edge
- Behov



Problemstillinger

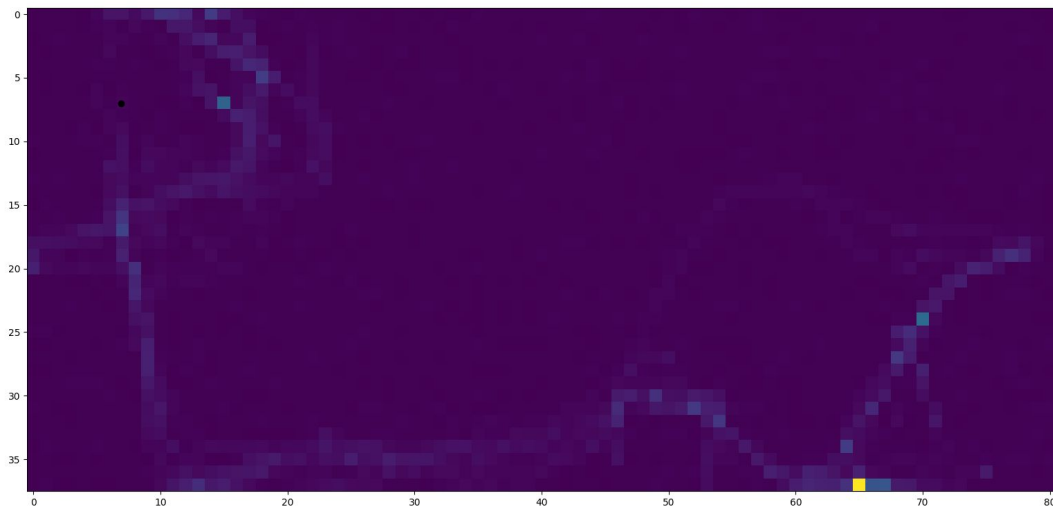
- Hvilke maskinlæringsteknikker kan brukes for å predikere fremtidige interessepunkter i dataspill?
- Hvor langt fram i tid klarer modellen å predikere interessepunkter som innenfor sin kontekst tilfredsstillende en feilmargin som forventes for et tilskuersystem i et dataspill?

Løsning

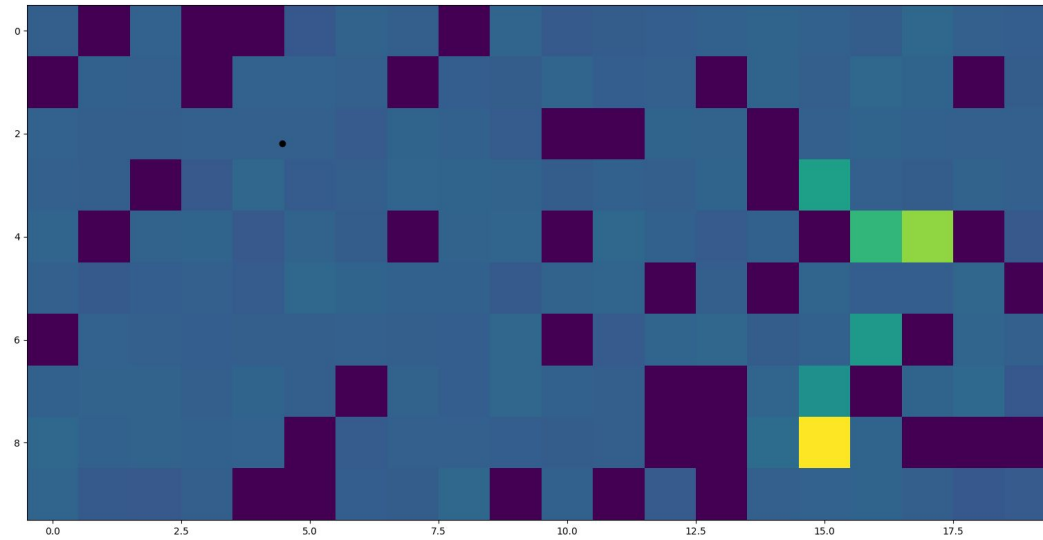
- **Ulike teknikker**
 - Convolutional Neural Network
 - Gated Recurrent Units
 - Long Short-Term Memory
- **Ulik databehandling**
- **Ulike parametre**



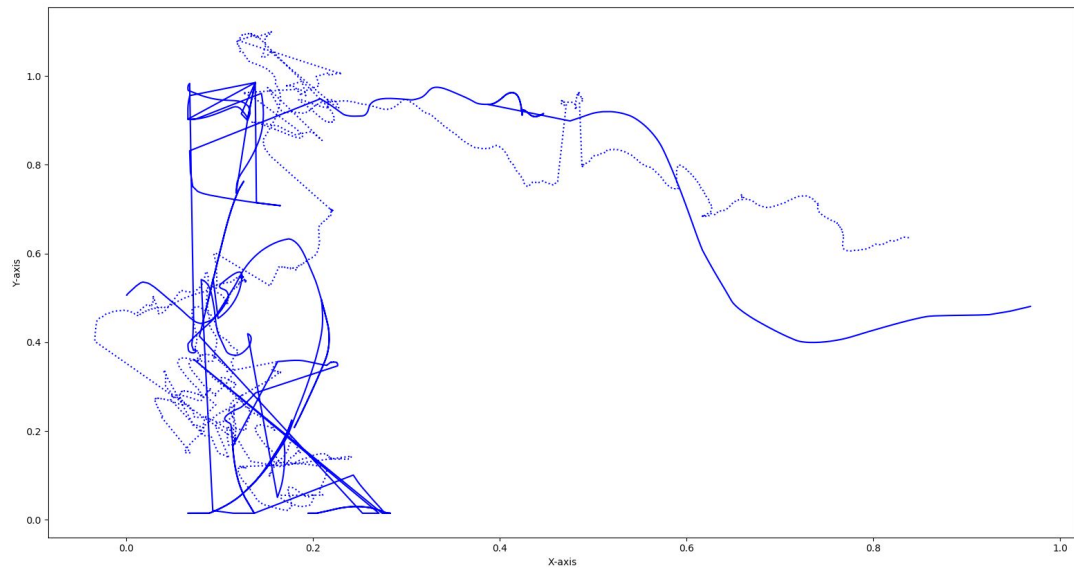
GRID



CNN

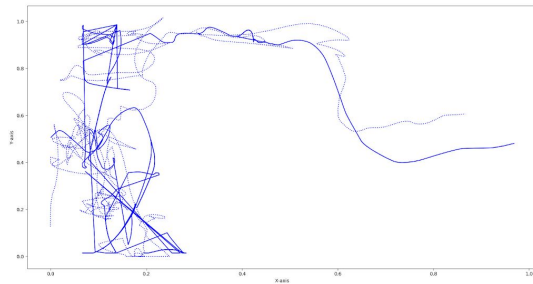


GRU

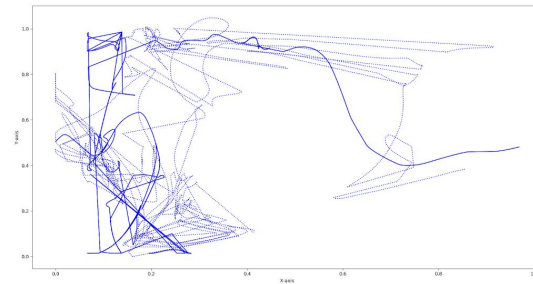


LSTM MODELL 1

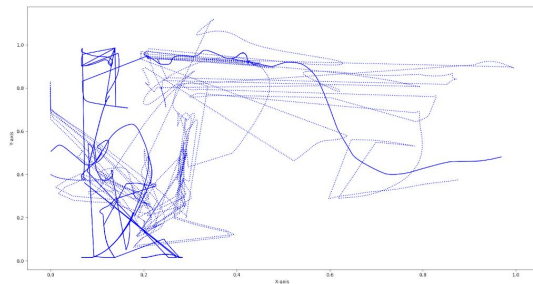
1 tidssteg



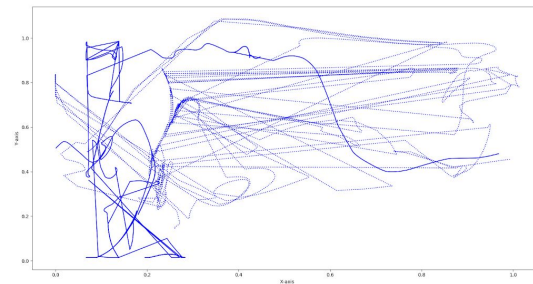
20 tidssteg



40 tidssteg

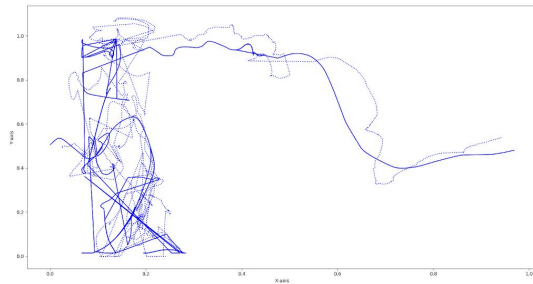


80 tidssteg

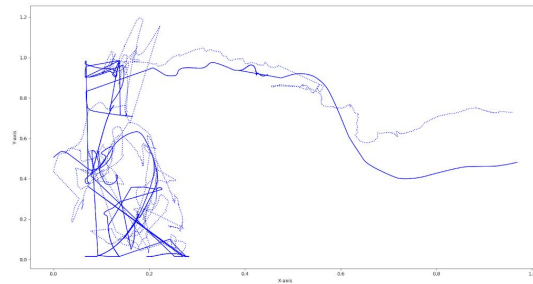


LSTM MODELL 2

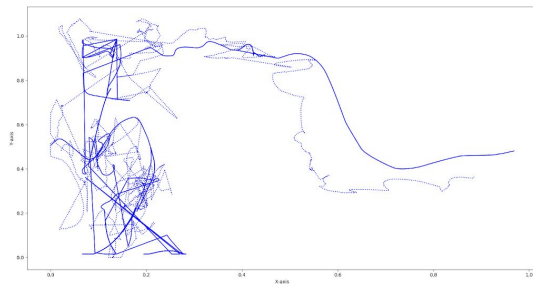
1 tidssteg



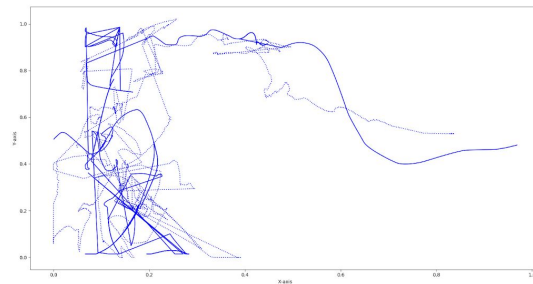
20 tidssteg



40 tidssteg

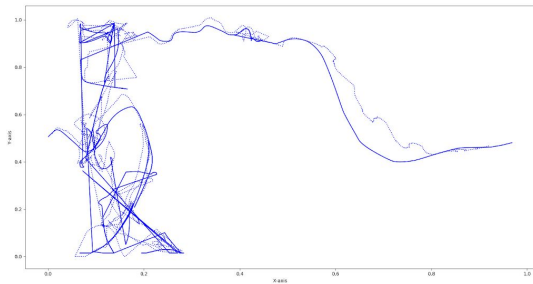


80 tidssteg

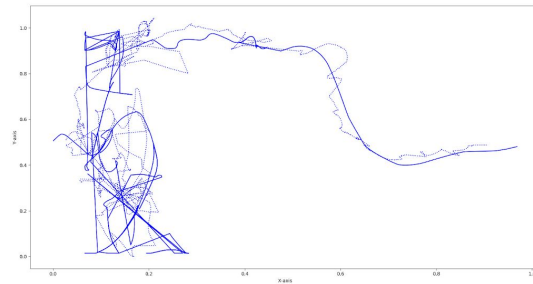


LSTM MODELL 3

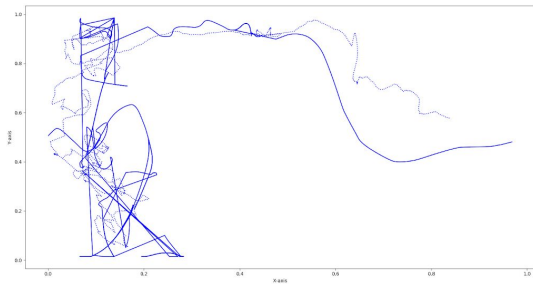
1 tidssteg



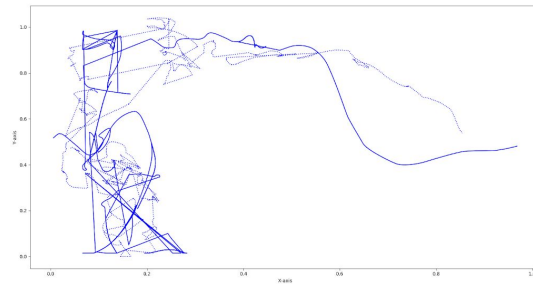
20 tidssteg



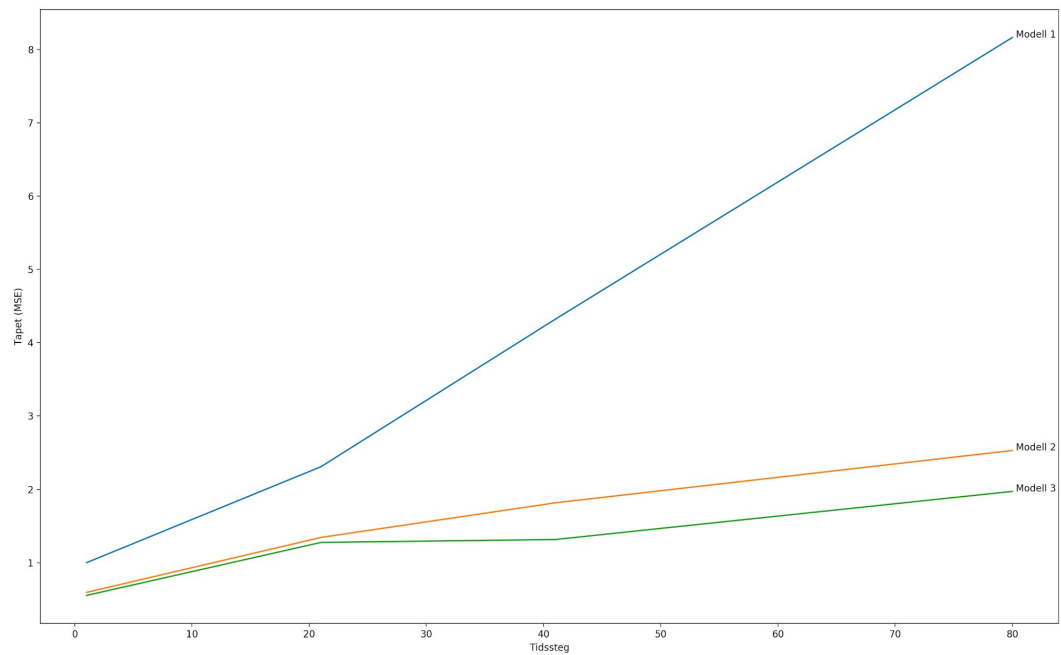
40 tidssteg



80 tidssteg



EVALUERINGER



Konklusjon

- LSTM
 - Modell 3
- 20 tidssteg - 40 tidssteg



Videre arbeid

- Mer trening
- Større datasett
- Ulike attributter
- Alternative teknikker

Takk for oss!