

Machine Learning in GO

Set-Adaptive Kernel Bandwidth Selection for Probability Estimation

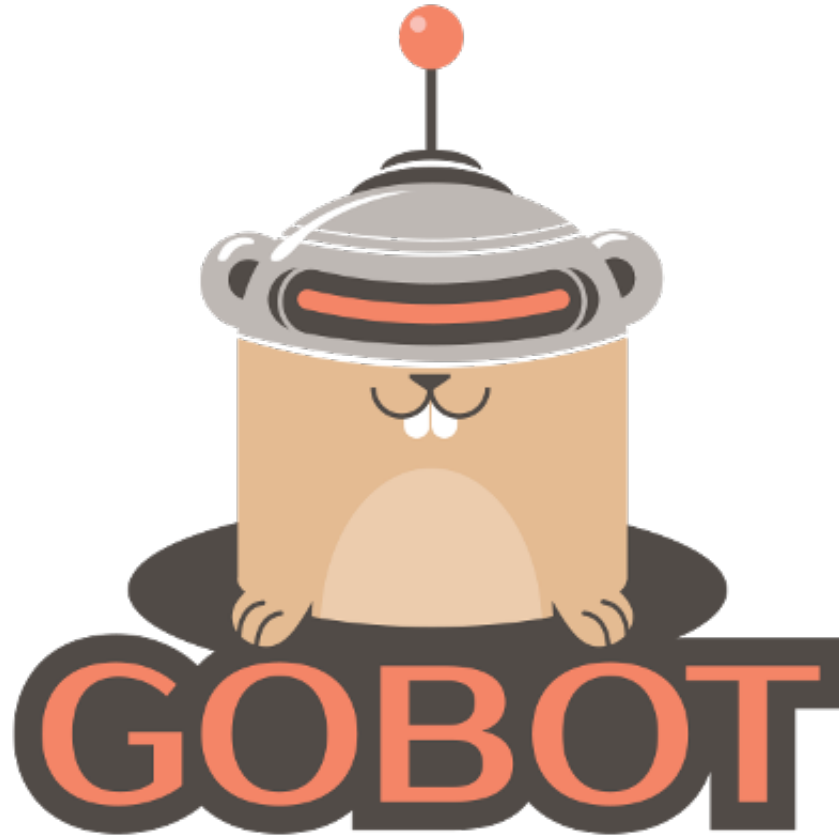
Golang Vietnam Meetup #9

23 Nov 2016

Dipl.-Ing. Vinh Hoi Le Chau

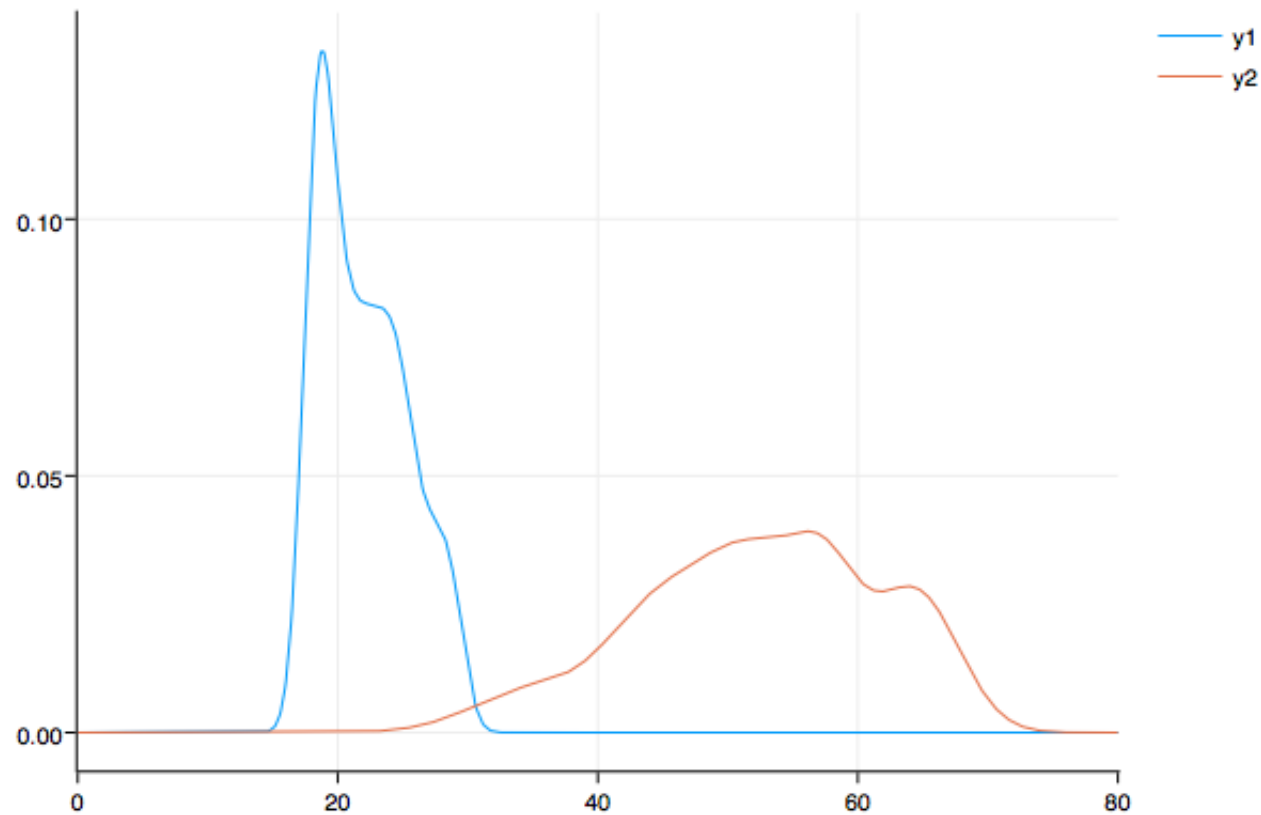
Founder and CTO of Miss Moneypenny Technologies

Vietnamese Delivery Bot



- Has a delivery for the professor
- Can only use "age sensor"

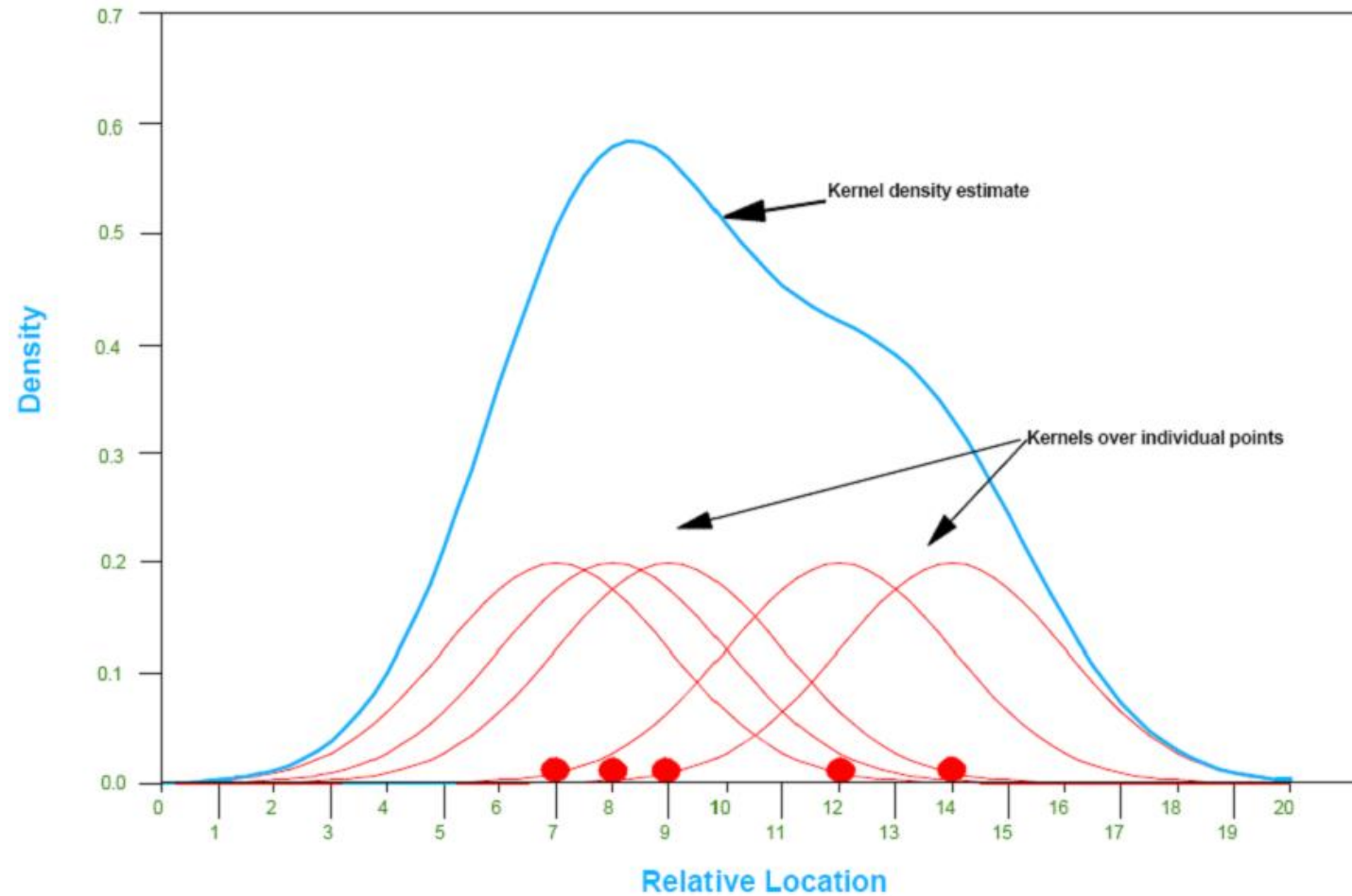
Students vs Professors



- Given: observed age of every person in the classroom
- Wanted: probability of this person being the professor

Learning from Data

Kernel Density Estimate
Summing of Normal Kernel Functions for 5 Points



Language Design in the Service of Software Engineering



<https://talks.golang.org/2012/splash.article>

- Build for the Cloud
- Embedded HTTP server
- Direct drivers for many databases
- Powerful standard tools and libs
- Single binary deployment

Focus on Space

```
// Gaussian holds the parameters for a Gaussian distribution
type Gaussian struct {
    // Mu is the mean
    Mu float64

    // Sigma is the standard deviation
    Sigma float64
}

// KDEModel is a configuration of a KDE
type KDEModel struct {
    // K is the Bandwidth parameter
    K int
}

// KDE is a kernel density estimator
type KDE struct {
    // Points holds all observations
    Points []float64

    // Models holds all models to be evaluated
    Models []KDEModel
}
```

Focus on Time

We are hiring!

Thank you

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