



Finding MIMO

Weekly Meeting: Week 4

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Progress

- MATLAB Implementation of SISO Channel
- MATLAB Implementation of MIMO Channel
 - QPSK
 - OFDM Modulation
 - Watterson Fading Channel
 - Least Squares Channel estimator
 - Zero Forcing Equalizer
- Linear Equalizers- LMS
- Non-Linear Equalizers- DFE LMS, MLSE
- Simulink simulation example





Challenges

- Understanding MIMO
- MATLAB
 - Built-in Linear Equalizer method incompatible with MIMO
 - LMS Inconsistent in Watterson Channel
 - MIMO implementation difficult to combine with HF band
 - Licenses expired

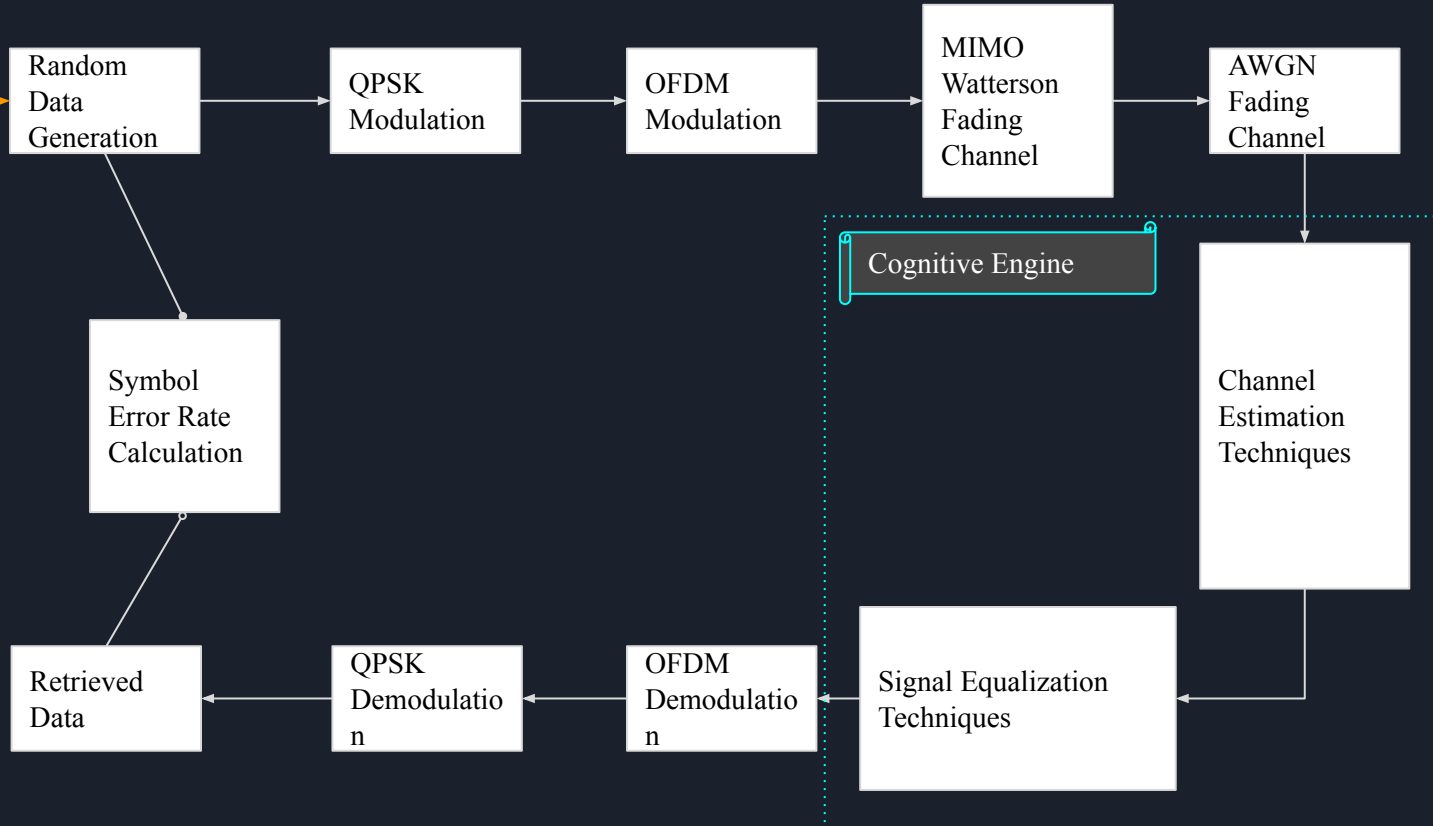


Roadmap

- Week 4
 - Learn about channel measurement methods
 - Integrate various equalizer code into MIMO channel models
- Weeks 5-6
 - Design and implement CE algorithms (Genetic, Epsilon-greedy)
 - Test a variety of ML algorithms for improving the IO of our MIMO implementation
- Week 7-10
 - Other tasks
 - paper writing



MIMO-OFDM Baseline



Questions?

