



## Master Thesis (6M)

In collaboration with Bosch

Thesis title	Development of high-resolution algorithms for Range/Doppler processing in Automotive Radar
Thesis description	<p>Radar sensing for autonomous vehicles must be able to provide a detailed view on the environment. Classical radar signal processing uses FFT for Range/Doppler processing and hence provides a resolution capability limited by the modulation bandwidth and observation time. Using model-based high-resolution algorithms allows to improve the Range/Doppler resolution and hence improves the Radar sensing performance.</p> <p>In this work, high-resolution frequency estimation algorithms should be developed, implemented, and evaluated starting from a standard Chirp sequence modulation and adapting them to more realistic Automotive Radar modulations as used in series radar sensors. Ideally, the developed algorithms should furthermore be evaluated based on real world measurement data using existing radar datasets.</p>
Qualifications	<ul style="list-style-type: none"> <li>• interest in radar signal processing</li> <li>• strong background in signal processing</li> <li>• programming skills in MATLAB and/or Python</li> </ul>
Begin	According to agreement
Duration	6M for Master thesis
Language	English or German
Supervisor	Bosch + ISS

Please contact Prof. Bin Yang ([bin.yang@iss.uni-stuttgart.de](mailto:bin.yang@iss.uni-stuttgart.de)) by email together with your Master transcript.

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