

# Vinod Devaraj

## Curriculum Vitae

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## Education

Present **Research Assistant, PhD**, Medical University of Vienna, Vienna, Austria.

Research on objective voice quality characterization

2015–2018 **Master of Science, *Digital Communications***, Christian-Albrechts-Universität (CAU), Kiel, Germany.

4 Semester with topics: Information theory, Pattern recognition, Digital electronics, Medical signal processing

2011–2015 **Bachelor of Engineering, *Electronics and Communication Engineering***, Anna University, Chennai, India.

8 Semester with topics: Embedded systems, Signals and systems, Signal processing, Microprocessors and controllers

## Work Experience

[Student assistant, Vel Tech, India](#)

Apr14–Sep 14 **Responsibilities**, .

- Measure and study power of speech signal in Frequency domain for different subjects
- Studied the characteristics of speech signals, effective communications and documentation.

[Internship, Bharat Sanchar Nigam Limited, Tamil Nadu, India](#)

Jun15–Aug15 **Training**, .

- Training on mobile technologies and aspects related to Planning and Optimisation in GSM, CDMA & WCDMA Networks. .

## Research Projects

Oct 17–May 18 **Master thesis: Computer simulation of motor nerve signal in case of dispersion and conduction block.** .

- Investigated and measured the EMG signals of the human body through collision testing.
- Pre-processed measured signals by filtering and removing undesired components .
- Simulated the motor nerve signals using **Volume Conduction Model**.
- A comparative study was done for the simulated and the measured signals in time, frequency and time-frequency domain.

Oct 16–Feb 17 **Discrete multitone Transmission.**

- Developed model for DMT transmission for optic fiber channels.
- Studied various modulation techniques and analysed the efficiency of the modulation schemes.
- Compared DMT transmission with Orthogonal frequency division multiplexing

Apr 16–Jul 16 **Noise suppression in speech signals.**

- Developed and implemented a model for suppressing noise from speech signals using **Wiener Filter** .
- **Key Learnings:** Characteristic features of noise and speech signals.

Oct 14–Apr 15 **Bachelor Thesis: Estimation of head orientation using power based techniques .**

- Determined the orientation of the human head based on the power of the signals obtained from subjects through different microphones.
- Feature extraction was done to estimate the orientation of the head by **Neural Networks**.

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## Conferences Attended

- 177th Meeting of the Acoustical Society of America, Louisville, Kentucky
- 13th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research, Montreal, Canada
- 20th Conference of the International Speech Communication Association INTERSPEECH, Graz, Austria

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## Papers

- 11th MAVEBA Conference: Paper entitled " A Glottal Area Waveform Model For Multi-Pulsed Vocal Fry".

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## Software Skills

- Programming Skills: **C++**, **MATLAB**, **Python**, **OpenCV**.
- Tools: **Latex**, **MS office**.

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## Achievements, Extra curricular and Voluntary activities

- Selected for finals of National Talent Search Examination, India after clearing regional and state levels.
- Awarded student grants from Acoustical Society of America at 177th Meeting of ASA.
- Member of International Buddy Network for helping new students joining in CAU
- Volunteer at 20th International Conference of the International Speech Communication Association INTERSPEECH

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## Languages

- English(full professional proficiency)
- German(Intermediate proficiency)
- Hindi(Native or bilingual proficiency)
- Telugu(Native or bilingual proficiency)

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## References

Prof. Dr.-Ing. Gerhard Schmidt , Head of the DSS group, Kiel University- gus@tf.uni-kiel.de, tlf:+49 431 880-6125.

Prof. Dr.-Ing. Muthuraman Muthuraman , Head of Biomedizinische Statistik und multimodale Signal Verarbeitung, Klinik und Poliklinik für Neurologie Rhein–Main-Neuronetz mmuthura@uni-mainz.de, tlf:06131 17-8074.