

# RECEP CAN YAVAS

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## CURRENT POSITION

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### Postdoc

2024–today

Department of Computer Science, National University of Singapore, Singapore

Supervisor: Prof. Jonathan Scarlett

## WORK EXPERIENCE

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### Postdoc

2022–2024

CNRS at Create, Singapore

Supervisors: Prof. Vincent Tan and Prof. Jonathan Scarlett

## EDUCATION

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### California Institute of Technology (Caltech), US

2016–2022

PhD

GPA: 4.1

Electrical Engineering

Advisers: Prof. Michelle Effros and Prof. Victoria Kostina

### California Institute of Technology (Caltech), US

2016–2017

MSc degree

GPA: 4.1

Electrical Engineering

### Bilkent University, Turkey

2012–2016

BSc degree

GPA: 3.97

Electrical Engineering

Rank: 3

## PUBLICATIONS

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### Journal Papers

- **R. C. Yavas** and V. Y. F. Tan, "Variable-Length Feedback Codes Over Known and Unknown Channels With Non-Vanishing Error Probabilities," in *IEEE Transactions on Information Theory*, vol. 71, no. 5, pp. 3271-3286, May 2025.
- **R. C. Yavas**, Y. Huang, V. Y. F. Tan and J. Scarlett, "A General Framework for Clustering and Distribution Matching with Bandit Feedback," in *IEEE Transactions on Information Theory*, vol. 71, no. 3, pp. 2116-2139, Mar. 2025.
- **R. C. Yavas**, V. Kostina and M. Effros, "Third-order Analysis of Channel Coding in the Small-to-Moderate Deviations Regime," in *IEEE Transactions on Information Theory*, vol. 70, no. 9, pp. 6139 - 6170, Sep. 2024.
- **R. C. Yavas**, Kostina and M. Effros, "Variable-Length Sparse Feedback Codes for Point-to-Point, Multiple Access, and Random Access Channels," in *IEEE Transactions on Information Theory*, vol. 70, no. 4, pp. 2367-2394, Apr. 2024.
- **R. C. Yavas**, and Vincent Y. F. Tan, "Fixed-Budget Best-Arm Identification in Sparse Linear Bandits," in *Transactions on Machine Learning Research*, Jan. 2024.
- Y. Sakai, **R. C. Yavas**, and V. Y. F. Tan, "Third-Order Asymptotics of Variable-Length Compression Allowing Errors," in *IEEE Transactions on Information Theory*, vol. 67, no. 12, pp. 7708-7722, Dec. 2021.

- **R. C. Yavas**, V. Kostina and M. Effros, “Gaussian Multiple and Random Access Channels: Finite-Blocklength Analysis,” in *IEEE Transactions on Information Theory*, vol. 67, no. 11, pp. 6983-7009, Nov. 2021.
- **R. C. Yavas**, V. Kostina and M. Effros, “Random Access Channel Coding in the Finite Blocklength Regime,” in *IEEE Transactions on Information Theory*, vol. 67, no. 4, pp. 2115-2140, Apr. 2021.

### Conference Papers

- **R. C. Yavas**, Y. Huang, V. Y. F. Tan and J. Scarlett, “A General Framework for Clustering and Distribution Matching with Bandit Feedback,” in *Proceedings 2025 International Symposium on Information Theory (ISIT)*, June 2025.
- **R. C. Yavas**, V. Y. F. Tan, “Variable-Length Feedback Codes over Known and Unknown Channels with Non-vanishing Error Probabilities”, in *Proceedings 2024 Information Theory Workshop (ITW)*, Nov. 2024.
- J. Chen, **R. C. Yavas**, V. Kostina, “Variable-Length Codes with Bursty Feedback”, in *Proceedings 2023 IEEE International Symposium on Information Theory (ISIT)*, June 2023.
- **R. C. Yavas**, V. Kostina and M. Effros, “Third-order Analysis of Channel Coding in the Moderate Deviations Regime,” in *Proceedings 2022 IEEE International Symposium on Information Theory (ISIT)*, June 2022.
- H. Yang, **R. C. Yavas**, V. Kostina, and R. D. Wesel, “Variable-Length Stop-Feedback Codes With Finite Optimal Decoding Times for BI-AWGN Channels,” in *Proceedings 2022 IEEE International Symposium on Information Theory (ISIT)*, June 2022.
- **R. C. Yavas**, V. Kostina and M. Effros, “Nested Sparse Feedback Codes for Point-to-Point, Multiple Access, and Random Access Channels,” in *Proceedings 2021 IEEE Information Theory Workshop (ITW)*, Oct. 2021.
- **R. C. Yavas**, V. Kostina and M. Effros, “Variable-length Feedback Codes with Several Decoding Times for the Gaussian Channel,” in *Proceedings 2021 IEEE International Symposium on Information Theory (ISIT)*, June 2021.
- **R. C. Yavas**, V. Kostina and M. Effros, “Gaussian Multiple and Random Access in the Finite Blocklength Regime,” in *Proceedings 2020 IEEE International Symposium on Information Theory (ISIT)*, June 2020.
- M. Effros, V. Kostina and **R. C. Yavas**, “Random Access Channel Coding in the Finite Blocklength Regime,” in *Proceedings 2018 IEEE International Symposium on Information Theory*, June 2018.

### RESEARCH INTERESTS

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My research interests include information theory, coding, and probability theory. In my doctoral studies, I worked on multiple and random access channels in the finite blocklength regime. I developed coding schemes with high performance for scenarios where an unknown number of transmitters is communicating to a single receiver. Now at postdoc, my interests expanded to multi-armed bandits.

### ACADEMIC ACHIEVEMENTS

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Fellowship in doctoral studies at Caltech	2016
48th rank among over 2 million in nationwide University Entrance Exam in Turkey	2012
Bronze medal in nationwide Mathematics Olympiads in Turkey	2008

### TEACHING EXPERIENCE

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I served as a teaching assistant in the following courses taught at Caltech.

EE 126A: Information Theory	2017–2020
EE 126B: Network Information Theory	2017–2020
EE 127: Error Correcting Codes	2020, 2022
EE 160: Fundamentals of Information Transmission and Storage	2021

EE 167: Introduction to Data Compression and Storage	2019
EE 120: Topics in Information Theory	2018
EE 55: Mathematics of Electrical Engineering	2021