# **Noisy by Nature**

## Environmental Noise Contamination Detector

Name	Todd Schultz	Sean Miller	Rahul Birmiwal
Photo			
Contact info	Todd S (Slack)	Sean Miller (Slack)	Rahul B (Slack)
Specific things you want to contribute	I bring deep domain knowledge in acoustic signal processing and Fourier-based analysis.	From my background in data engineering I hope to contribute by operationalizing any solutions we propose.	Bring dual set of skills in firstly, extensive (undergraduate degree) in signal processing, FFT algorithms. Secondly: programming experience both object-oriented principles, as wel as for machine-learning purposes. Also enjoys working on data visualization
Specific things you hope to learn	I hope gain deep practical experience with wavelet transforms and long-short term networks.	I hope to gain an understanding of signal processing techniques for audio that I can apply to domains outside flight data.	I hope to learn about novel methods ir translating acoustic signal data into an optimal set of covariates for ML/classification. Hope to learn about short-term Fourier Transform for audic analysis, and RNN/LSTM neural networks.
Meeting Availability	Evenings on Sunday, Monday, Thursday, Fridays	Evenings during the week, all day on the weekend.	All day on weekends (weekends preferred), Friday morning and afternoon.
Anything Else Your Team Should Know	Electronic communications are the easiest way to get in touch with me.	Text, Slack or e-mail are the easiest way to reach me. My work schedule is flexible if	Text or email preferred. I am taking three courses this quarter (Tu-Thur ~5-PM) each.

	given sufficient notification to schedule time off.	

#### **Additional Questions:**

What is your team structure? (This could be 'hierarchical' – one person is the team lead, the others follow, 'flat' – each team member has an identical role to each other team member, or 'siloed' – each team member has an area of responsibility, and owns that area.)

- The team structure is designed to be flat with the except that one member is also the principle investigator from the sponsoring company. This does provide benefit of easing the communication with the sponsor.
- Who is responsible for making sure deadlines are met? We will each be responsible for both our own individual modules in the project, and due to our relatively small team size, we will continually be keeping tabs on each other's work.
- Who is responsible for contacting the sponsor? Todd Schultz
- Who is responsible for testing your product? All members should be able to independently test the proposed algorithms.
- Who is writing documentation? All members should contribute to the documentation.

#### What is your team's approach to communication?

- How frequently do you expect team members to check in? Checking in once a week in person is the goal with frequent communication via Slack throughout the week.
- Who contributes to reports to the sponsor? All members should contribute to the reports to the sponsor.

### What is your team's approach to conflict resolution?

- How do you raise an issue? Issues regarding technical problems should be raised in the GitHub issue tracker, personal issues should be raised in the preferred communication channel or in person.
- What is your process for deciding contentious decisions? The process for working out contentious issues should start with agreeing on the underlying facts of the problem. Then assumptions can be introduced and discussed in relation to the agreed upon facts and solutions proposed. At the end of the discussion, a decision to disagree is acceptable but action items should be assigned with an intent to try to resolve the issue.

## List, in order, your desired projects:

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