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6 UNITED STATES DISTRICT COURT  
7 DISTRICT OF ARIZONA  
8

9 **United States of America,**

10 Plaintiff,

11 v.

12 **Constantine Panousopoulos, et al.,**

13 Defendant.  
14

CR-22-00820-JCH-LCK-2  
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**Amended Notice of Defense  
Expert Witness Yotam Shmargad**

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16 Constantine Panousopoulos, through counsel and pursuant to Rule 16(b)(1)(C), Fed.  
17 R. Crim. P., files this amended notice of intent that he may call expert witness Yotam  
18 Shmargad in this case under Fed. R. Evid. 702, 703, and 705. The Defense respectfully  
19 reserves the right to supplement this notice at a later time pursuant to Fed. R. Crim. P. 16(c).  
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1       **1. OPINIONS:**

2               The Government’s indictment alleges that “Panousopoulos and Flores offered and  
3       provided to Fuentes things of value at different intervals during the course of the conspiracy  
4       as a stream of benefits with intent to influence Fuentes in the performance of official acts  
5       as specific opportunities pertaining to property valuations and classifications arose.” [ECF  
6       87, ¶ 19.] To further support this accusation, the indictment points to Mr. Panousopoulos’s  
7       protests of property values in 2019, which resulted in “reduced assessed valuations on 10  
8       out of the 11 properties Panousopoulos appealed that year.” [ECF 87, ¶ 21(c).] The  
9       indictment alleges that those results were an official act of the Assessor and the fruit of Mr.  
10      Panousopoulos’s intent to influence the Assessor. [ECF 87, ¶ 21.]

11             Shmargad is trained in statistics and data science. He can testify to the  
12      statistical practice of “generalization” from a data sample to a population of study. He will  
13      explain that improper “generalization” can imply, among other things, drawing conclusions  
14      regarding events that fall outside of the scope of data that are analyzed. The indictment’s  
15      reference to the 2019 appeals is an example of improper generalization. Knowing only the  
16      results of 2019, one cannot extrapolate that similar results occurred throughout other years.  
17      This is particularly important here because the Government’s main witness, the Assessor,  
18      alleges that Mr. Panousopoulos had paid the Assessor thousands of dollars over the course  
19      of around fifteen years. If Mr. Panousopoulos had provided a stream of benefits for more  
20      than a decade, but he had not received favorable treatment during much of that time, it is  
21      more likely that he was not providing those “benefits” with any intent of receiving  
22      favorable treatment.

23             Shmargad can also testify to the statistical issues arising from “non-random  
24      selection” of data. Whenever data is selected in a non-random manner—such as picking  
25      data from a single year—there is the possibility that the selected data cannot accurately  
26      inform a person about more general trends or patterns in the data. Thus, if the Government  
27      wanted to argue that Mr. Panousopoulos had provided a stream of benefits for fifteen years,  
28      intended to receive favorable treatment during those fifteen years, *and* that favorable

1 treatment actually resulted from that stream of benefits, then the sample data should be  
2 drawn randomly from those fifteen years, not just from 2019.

3 Last, Shmargad can testify as to what could constitute unreliable visualizations of  
4 data. Using the statistical programming language R, Shmargad will prepare charts and  
5 summaries of the petition data and property value data for Mr. Panousopoulos's properties  
6 and can explain, if need be, why those visualizations accurately reflect the data and any  
7 trends (or lack thereof) in the data. Similarly, if the Government proposes any charts or  
8 summaries of the data, Professor Shmargad has the expertise to criticize unreliable  
9 visualizations of the data.

## 10 **2. BASES AND REASONS FOR THE OPINIONS:**

11 Prof. Shmargad's opinions regarding generalization, non-random selection, and  
12 unreliable visualizations of data are commonly understood principles in the field of data  
13 science and are derived from his study and work in that field. His opinions regarding charts  
14 and summaries will be derived from the appeals and decisions on appeals related to the  
15 Santa Cruz County Assessor's Office's valuations of Mr. Panousopoulos's properties, as  
16 well as business records tracking the changes in Assessor valuations of Mr.  
17 Panousopoulos's properties over the years.

## 18 **3. QUALIFICATONS AND PRIOR TESTIMONY:**

19 Prof. Shmargad is an Associate Professor and the Director of Undergraduate Studies  
20 in the School of Government & Public Policy at the University of Arizona, as well as an  
21 affiliated faculty member in the School of Sociology. He is an expert in data visualization  
22 and programming languages used to generate those data visualizations, such as the  
23 programming language "R" for statistical computing. A full list of Prof. Shmargad's  
24 publications is available at [https://www.yotamshmargad.com/wp-](https://www.yotamshmargad.com/wp-content/uploads/2025/01/Yotam-Shmargad-CV.pdf)  
25 [content/uploads/2025/01/Yotam-Shmargad-CV.pdf](https://www.yotamshmargad.com/wp-content/uploads/2025/01/Yotam-Shmargad-CV.pdf).

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