Final Exam

SDS 391P.6, Spring 2026

Pratik Patil

The Face Alphabet: Answer Key

Portraits only of (some of the) non-living figures used in the course.

A. Joseph Fourier — Fourier bases, orthogonal series regression

B. Sergei Sobolev — Sobolev smoothness classes, embedding theorems

C. Lucien Le Cam — Le Cam's method for minimax lower bounds

D. Andrey Kolmogorov — Probability foundations, Kolmogorov distance

E. Sergei Bernstein — Bernstein inequalities, Bernstein polynomials

F. Hermann Minkowski — Minkowski inequality, Minkowski sums

G. Pafnuty Chebyshev — Chebyshev inequality, variance-to-tail bounds

H. David Hilbert — Hilbert spaces, RKHS geometry

I. Hans Rademacher — Rademacher variables, processes, and complexity

J. Johan Jensen — Jensen inequality, entropy as convexity gap

K. Constantin Carathéodory — Caratheodory theorem, convex hulls

L. Eugene Wigner — Wigner matrices, semicircle law

M. Claude Shannon — Information, entropy, minimax lower bounds

N. Norbert Wiener — Wiener process. Brownian motion

O. Hermann Weyl — Weyl eigenvalue perturbation inequality

P. Francesco Paolo Cantelli — Cantelli inequality, Glivenko-Cantelli theorem

Q. Pierre-Simon Laplace — Laplace transform, Chernoff method

R. Andrey Markov — Markov inequality, moment methods

S. Otto Hölder — Hölder inequality, dual norms, Hölder continuity

T. Augustin-Louis Cauchy — Cauchy-Schwarz inequality, heavy tails

U. Thomas Bayes — Bayesian decision viewpoint, Bayes risk

V. Robert Fano — Fano's inequality for minimax lower bounds

W. Ferdinand Frobenius — Frobenius norm, matrix variance scales

X. Thomas J. Stieltjes — Stieltjes transform in spectral analysis

Y. Carl Friedrich Gauss — Gaussian variables, Gaussian processes

Z. Henri Poincaré — Poincaré inequalities, variance bounds