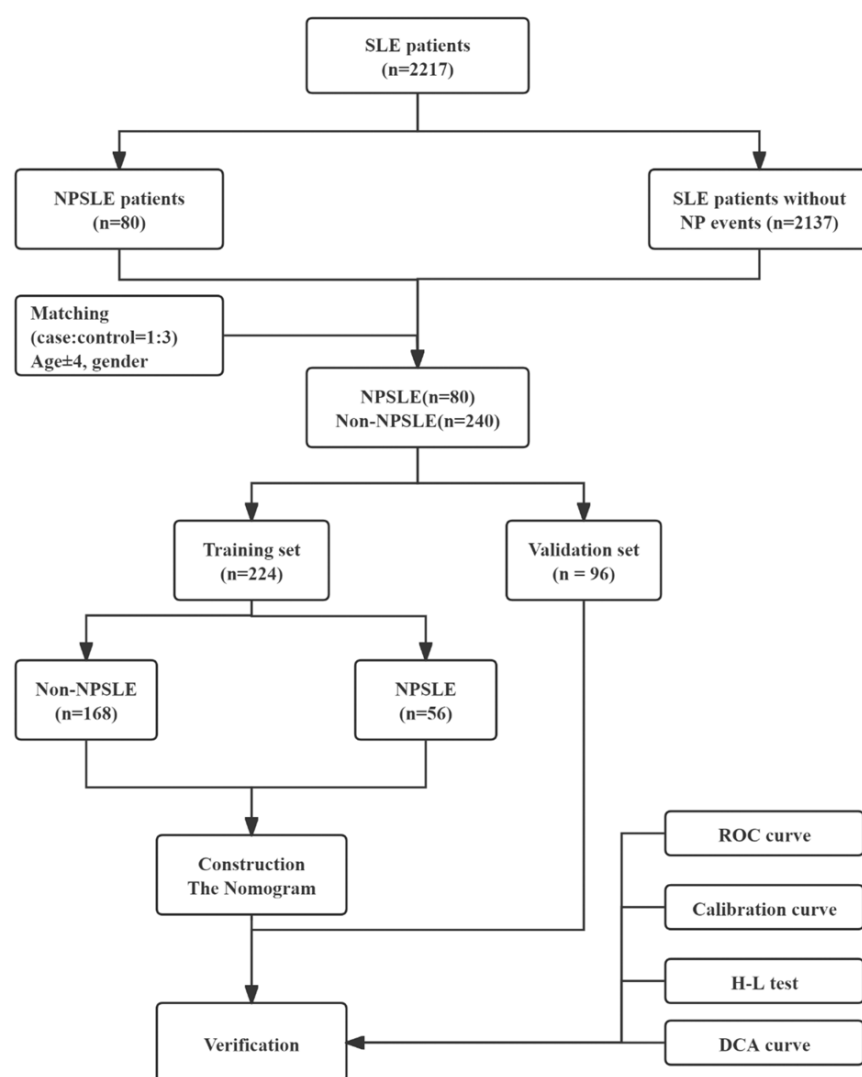


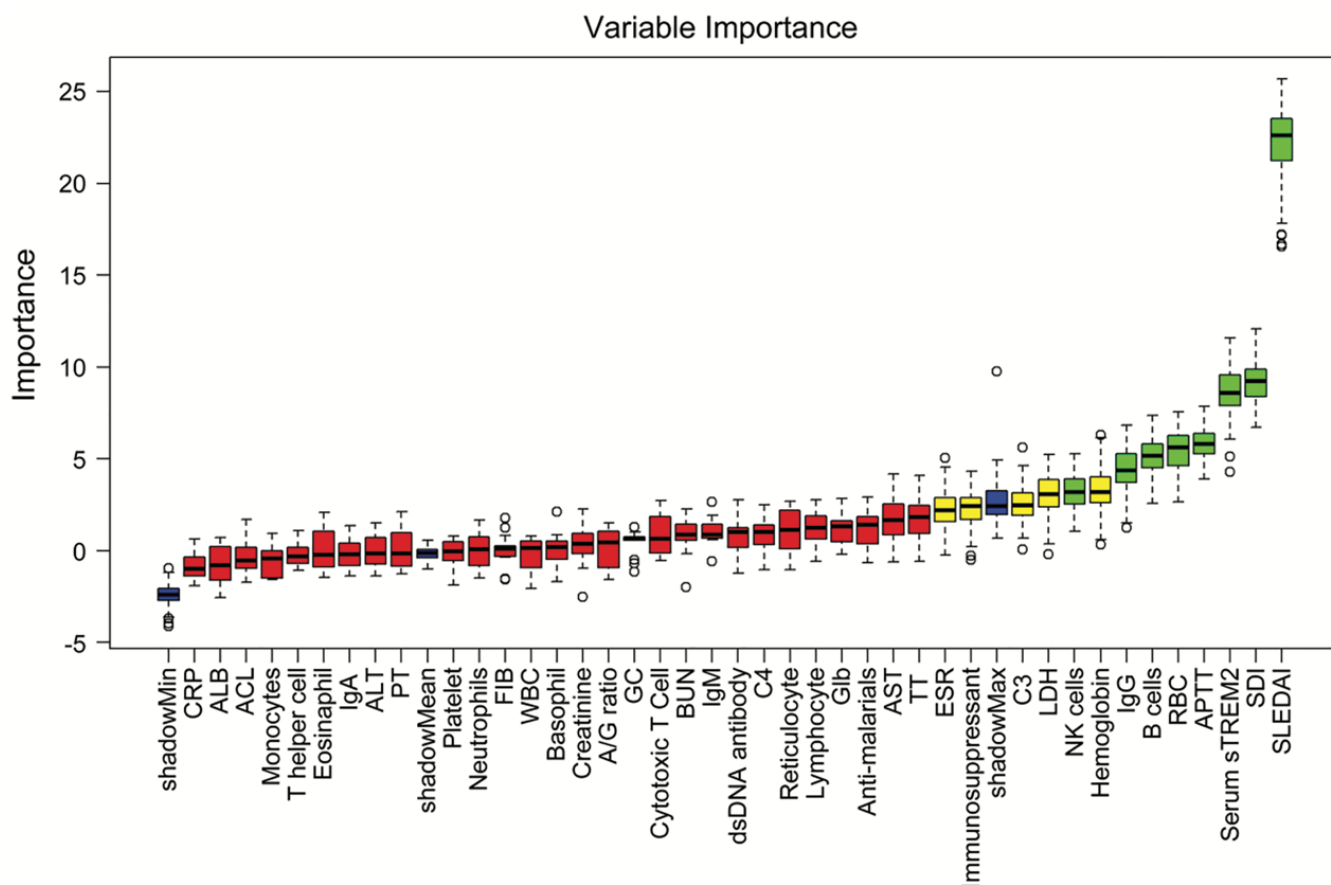
Supplementary Table S1. Type of NP event in NPSLE patients.

	NPSLE (total n=80)	New/ongoing NP (total n=68)	Resolved NP (total n=28)
Psychosis	7	4	4
Mood disorder	8	8	0
Cognitive dysfunction	1	1	0
Acute confusional states	14	10	9
Anxiety disorder	3	3	0
Aseptic meningitis	3	3	0
Cerebrovascular disease	20	17	7
Demyelinating disease	3	3	0
Headache	1	1	0
Seizure disorders	11	11	4
Acute inflammatory demyelinating polyneuropathy	1	1	1
Autonomic disorder	1	1	0
Mononeuropathy, single/multiplex	1	1	1
Cranial neuropathy	3	3	0
Polyneuropathy	3	1	2

NP: neuropsychiatric; NPSLE: neuropsychiatric systemic lupus erythematosus.

**Supplementary Fig. S1.** Flowchart of the study.

DCA curve: Clinical decision curves; H-L test: Hosmer-Lemeshow test; NPSLE: neuropsychiatric systemic lupus erythematosus; Non-NPSLE: SLE with no neuropsychiatric events; ROC curve: receiver operating characteristic curve; SLE: systemic lupus erythematosus.



Supplementary Fig. S2: Variable importance analysis.

A standardised feature importance score is shown in the y-axis. The blue boxplots represent the minimum, mean, and maximum z-scores of the shadow attributes which are created by randomly shuffling the values of the original features. The green, yellow, and red boxplots represent the z-scores of the confirmed, tentative, and rejected features respectively.

ACL: anticardiolipin antibody; ALB: albumin; ALT: alanine transaminase; APTT: activated partial thromboplastin time; AST: aspartate transaminase; A/G ratio: albumin/globulin ratio; BUN: blood urea nitrogen; CRP: C-reactive protein; C3: complement 3; C4: complement 4; dsDNA: double-stranded DNA; ESR: erythrocyte sedimentation rate; FIB: fibrinogen; GC: glucocorticoid; Glob: globulin; IgA: immunoglobulin A; IgG: immunoglobulin G; IgM: immunoglobulin M; LDH: lactate dehydrogenase; PT: prothrombin time; RBC: red blood cell; Scr, serum creatinine; SLEDAI, Systemic Lupus Erythematosus Disease Activity Index; SDI, Systemic Lupus International Collaborating Clinics (SLICC)/American College of Rheumatology damage index; sTREM2: soluble triggering receptor expressed on myeloid cells 2; TP: total protein; TT: thrombin time; WBC: white blood cell.

Supplementary Table S2. Selected variables from logistic regression analysis for model construction.

Characteristic	Coef.	OR (95%CI)	p-value	VIF
SLEDAI	0.19	1.21 (1.14-1.31)	<0.001*	1.24
SDI	0.61	1.84 (1.22-2.87)	0.005*	1.14
RBC	-0.39	0.68 (0.39-1.16)	0.16	1.06
B cells	0.04	1.04 (1.00-1.08)	0.03*	1.08
APTT	0.08	1.08 (1.02-1.17)	0.03*	1.05
sTREM2	0.001	1.001 (1.00-1.002)	0.027*	1.12
NK cells	-0.03	0.97 (0.9-1.04)	0.42	1.02
IgG	0.03	1.03 (0.96-1.11)	0.35	1.10

p-value for between-group comparisons. Bold text highlights significant values. *Values statistically significant at $p < 0.05$.

APTT: activated partial thromboplastin time; IgG: immunoglobulin G; NK cells: Nature Killer cells; RBC: red blood cell; SLEDAI: Systemic Lupus Erythematosus Disease Activity Index; SDI: Systemic Lupus International Collaborating Clinics (SLICC)/American College of Rheumatology Damage Index; sTREM2: soluble triggering receptor expressed on myeloid cells 2.